DUN'S REVIEW and Modern Industry

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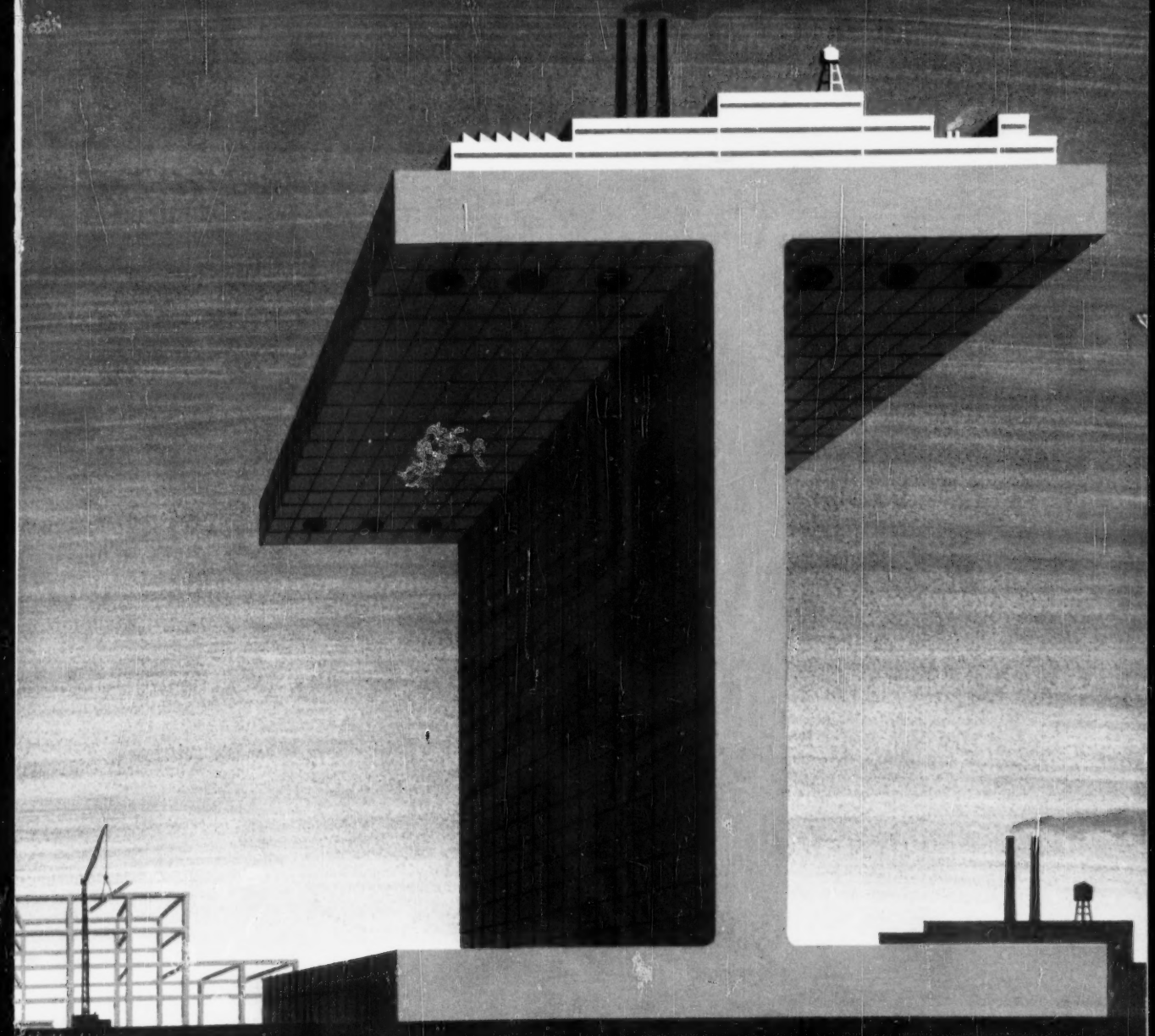
January 1958 75¢



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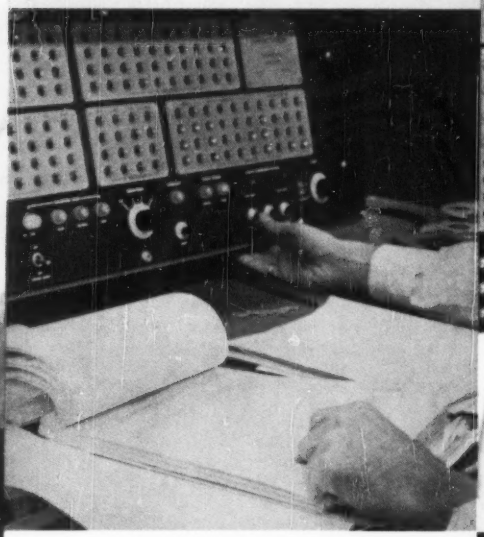

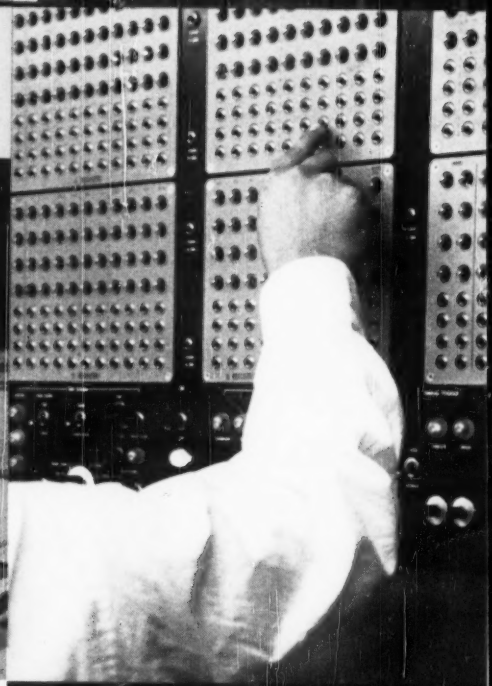

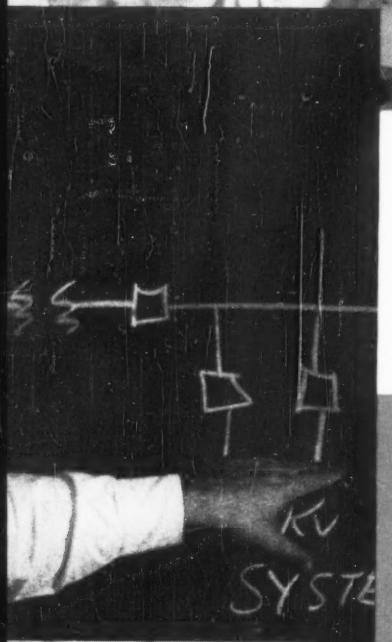

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DUN'S REVIEW
and Modern Industry

Volume 71 No. 1

JANUARY 1958

Feature Articles

What's Ahead for Industry in 1958 32
Kenneth Henry

The "Results" Approach to Profitable Management 36
Edward C. Schleh

Management Takes to the Air 38
Thomas Kenny

Are You Paying Too Much for Distribution? 42
Charles W. Smith

Industry Airs Its Production Problems 44
Melvin Mandell

Getting Across to Your Financial Public 48
Herman S. Hettinger

Industrial Traditions and The American Future 70

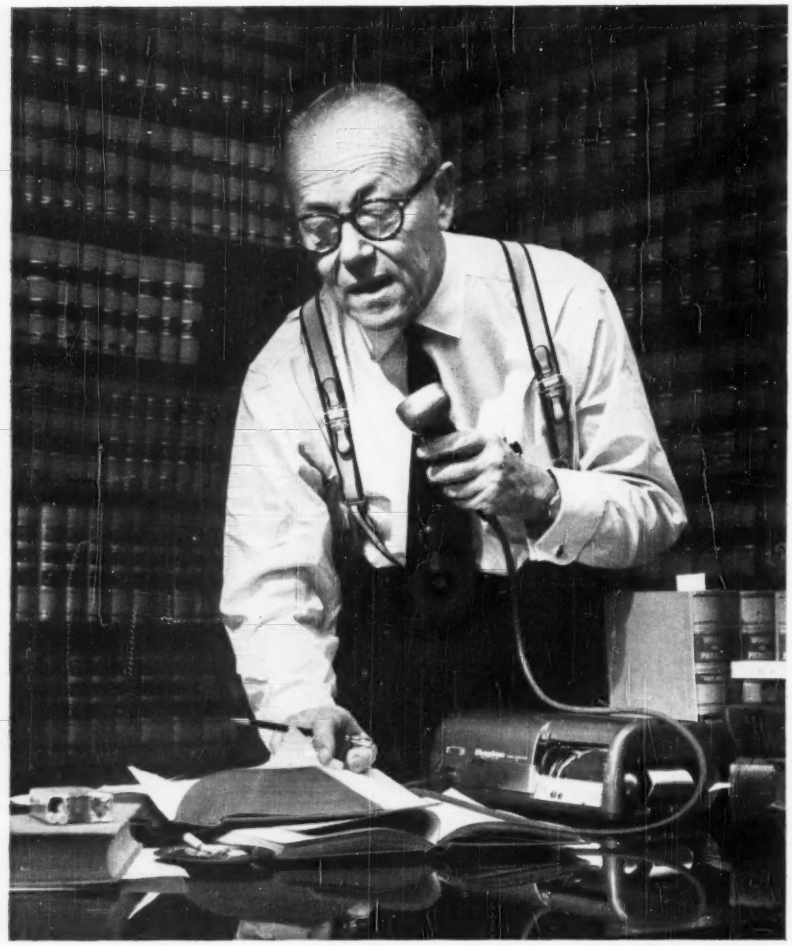
International Business Gages Its 1958 Prospects 86
Alexander O. Stanley

Transportation Moves Ahead 100

"Going Rates": Termites in Industry's Pay Structure? 111

Departments

The Reviewing Stand 3
Heard in Washington 9
Voice of Industry 13
The Trend of Business 19
Business Failures 29
Executive Bookshelf 61
Inside Industry 73
Sales and Distribution 84
International Markets 86
Editorial 116



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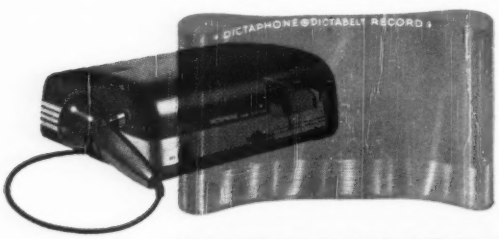

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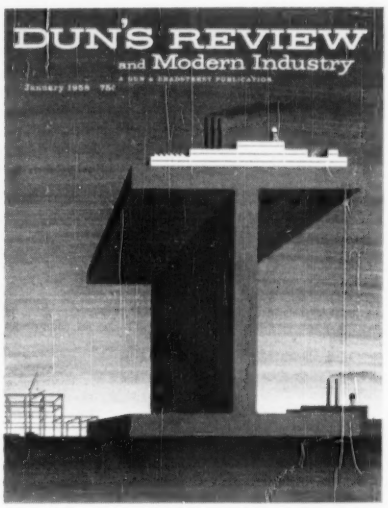

Beyond the minor uncertainties of coming months, challenging vistas of future growth lie ahead for U.S. industry. So say the company presidents who will help shape that future. Artist: Robert Hallock.

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the REVIEWING STAND

• When the fortunes of the Nationalist regime in China were fading, inflation stole money values so rapidly that the government's paper currency wasn't worth taking out of the boxes in which the crisp, new notes were shipped. Suddenly, one enterprising person took an interest in the freshly printed money and exchanged some hard specie for the paper. He ripped open the strapped cases and carefully unfolded the lead foil which protected the paper money. The lead he sold at a nice profit; the worthless notes he dumped into a bonfire.

Paper money is an act of faith, which inflation can destroy when people try to get something for nothing. If price stabilization can do much to impede inflation in 1958, it can also prevent a sudden deflation of values. Few burdens are so painful to the back of man as the debt incurred in a boom that must be paid back in a recession. In this month's "Trend of Business" (page 19), economists Edwin B. George and Robert Landry forecast only a slight rise in the price level during 1958—and a comparatively mild dip in over-all business activity.

• "Almost every organization has access, in its own people, to a vastly greater store of ability, ingenuity, judgment, and human potential than it ever uses." This is the sound assumption underlying "The 'Results' Approach to Profitable Management," which is described in this issue by Edward C. Schleh.

The same principle is true of individuals, and its lesson can be applied by any man interested in analyzing his own qualities. Just as a political crisis can develop sudden gifts for leadership in government officials, so can a minor crisis in business management test the capacity of the individual, forced to sink or swim as his own ingenuity and judgment decide. When middle management is pushed into a situation that calls for real initiative, it is amazing how many will strike out for a goal and achieve it. Some will make it by

Can You Call a Man a "Failure" at Thirty?

Men who think that success is only a matter of "a few years" are failures . . . however young they are!

How often have you heard some young man in business say, "I'll admit the job I have now isn't much but, after all, I'm only in my twenties."

Or: "Just about every executive in the company I work for is between 45 and 65. I have plenty of time to get ahead."

This *mistaken* idea that success comes automatically with time is easy to understand. Promotions do come regularly and effortlessly to young men of promise. *But* the day arrives, often abruptly, when that promise must be *fulfilled*. Native ability and intelligence can carry a man only to the midway point in business—beyond that he must *prove* his capacity to justify a position of executive responsibility. That calls for a practical, working knowledge of business fundamentals.

The time to build that knowledge—to lay a solid groundwork for your future progress—is now . . . *now* while time is still on your side. If you fail to recognize that fact, you'll know only struggling, skimping and regret when your earning power should be at its height.

HALF the world is half asleep! Men who could be making twice their present salaries are coasting along, hoping for promotions but doing nothing to bring themselves forcefully to the attention of management. They're wasting the most fruitful years of their business lives . . . throwing away thousands of dollars they'll never be able to make up.

If *you* want to discover how to start to succeed while you're still young—if you want to avoid the heartbreak of failure in later years—send today for "Forging Ahead in Business" . . . one of the most practical and helpful booklets ever written on the problems of personal advancement. You will discover what the qualifications of an executive are in today's competitive market . . . what you must know to make $15,000, $20,000 or more a year . . . what you must *do* to accumulate this knowledge.

"Forging Ahead in Business" was written for ambitious men who seriously want to get down to bed-rock in their thinking about their business future; there's no charge for the booklet because, frankly, we've never been able to set a price on it that would reflect its true value. Some men have found a fortune in its pages. If you feel that it's meant for you, simply fill out and return this coupon. Your complimentary copy will be mailed to you promptly.

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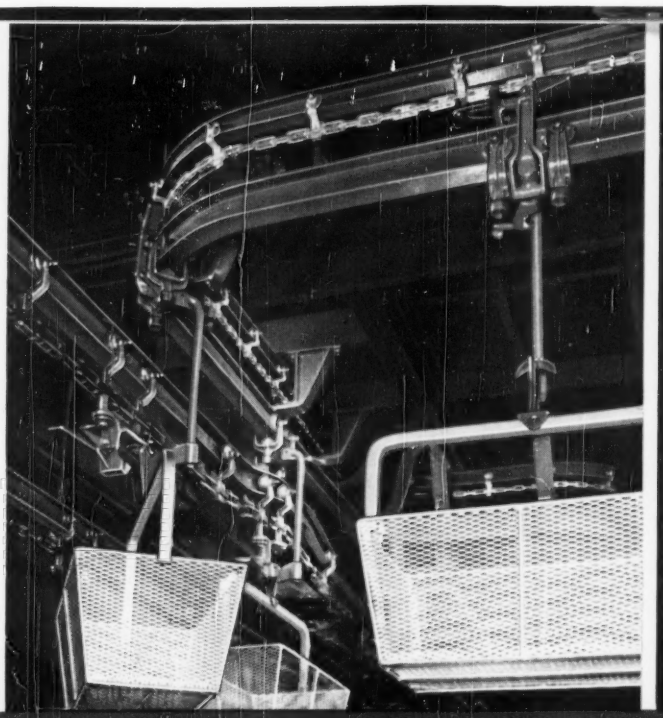
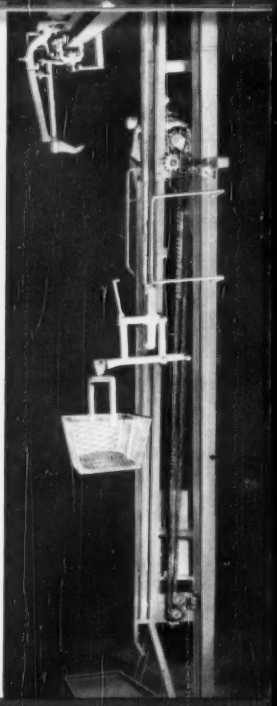
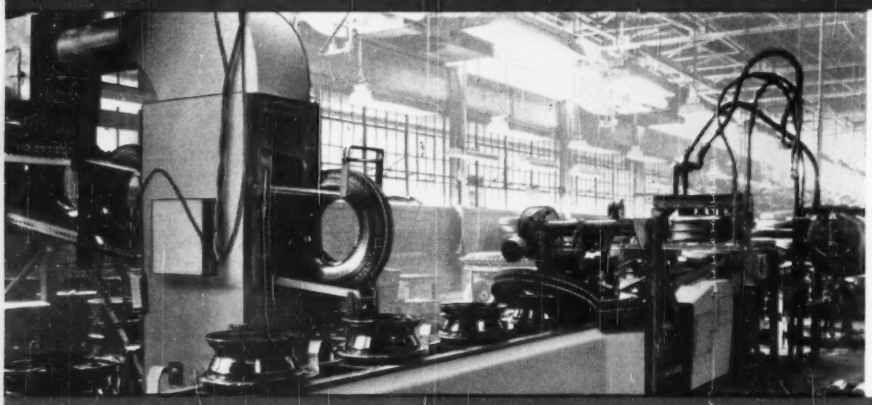
TRANS-FREE CONVEYOR
Automatic transfer from live line to free accomplished without physical handling. Some installations incorporate vertical elevators which allow all work transfer in unused overhead space.



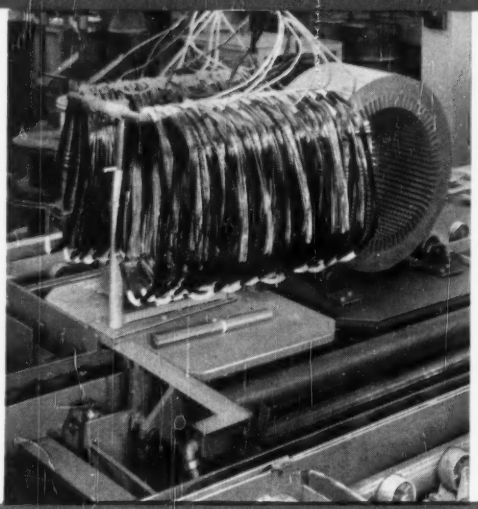


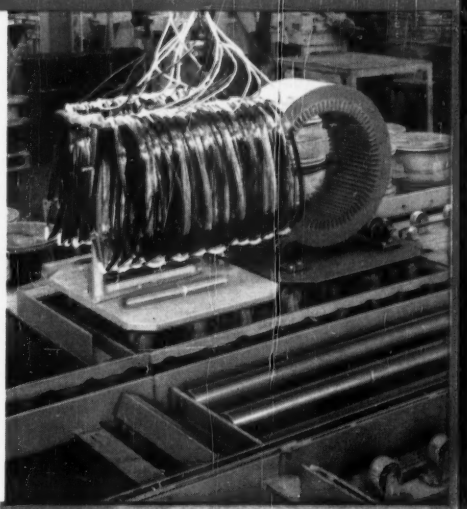
New Ideas by Allied for

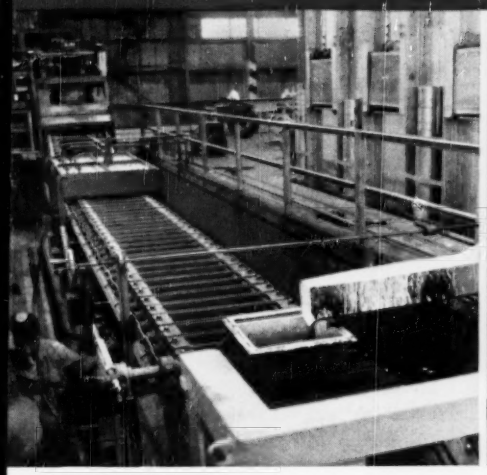


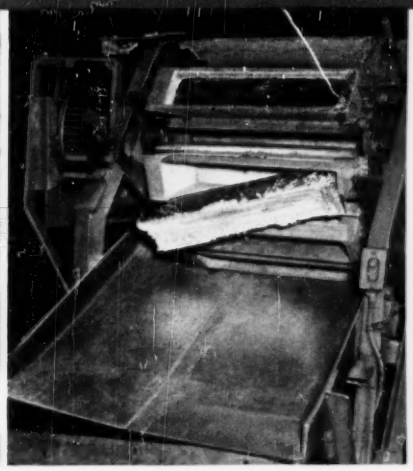
AUTOMATIC TIRE MOUNTER
Another Allied first, this mounter receives tires and wheels, soaps the bead and mounts the tire, and then *inflates and balances the wheel.* Wheels are untouched from beginning to end.

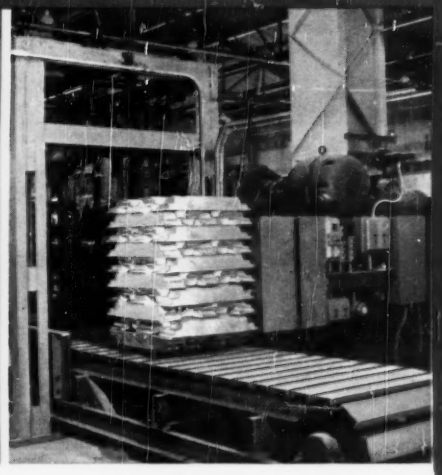
LIVE ROLLER TRANSFER
In this recent installation, pallet loads are maintained on a storage bank until a work station is freed. Load then travels to work station and is automatically transferred into work area without stopping the main conveyor. After processing, work is returned to the main conveyor with no time lost, no work stoppage for physical handling.









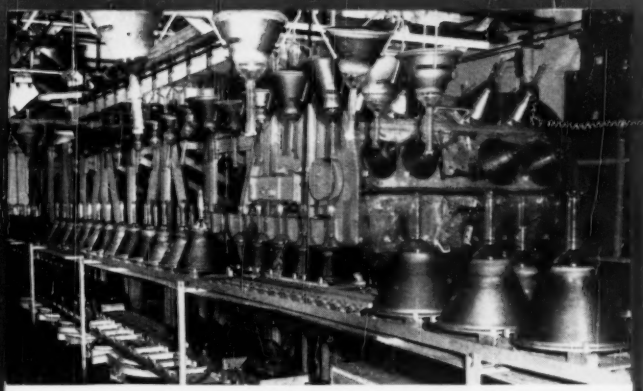


AUTOMATIC PIG STACKER — Prior to this Allied installation, ingots or pigs had to be stacked manually under hot and dangerous conditions by two 4-man teams who worked 15 minutes, then rested 15 minutes. With this automatic pig stacker, molds are poured, cooled while traveling down the conveyor line, shaken from the mold, and then stacked on pallets ready for forklift trucks, all automatically, completely without physical handling.

Automatic Product Handling

Allied has installed miles upon miles of overhead conveyors like many other conveyor companies. But length of installations alone is not the measure of the ability of a conveyor engineering team. The true measure is how they meet your individual product handling problems and solve them in a manner that will assure a maximum return on your investment. On these pages, Allied presents some of the cost-saving new ideas introduced by them in recent conveyor installations.

For more information about these and other Allied conveyor installations, please write on your letterhead.



TV SETTLER — Vibrations of the phosphorescent solution on a TV tube during settling causes ripples on the surface of the screen. Even the slightest quiver throughout this 40-foot conveyor would cause costly rejections. This Allied equipment was in operation within two months of the manufacturer's original request and has cut the rejection rate by 50% over the previous system of hand dipping.

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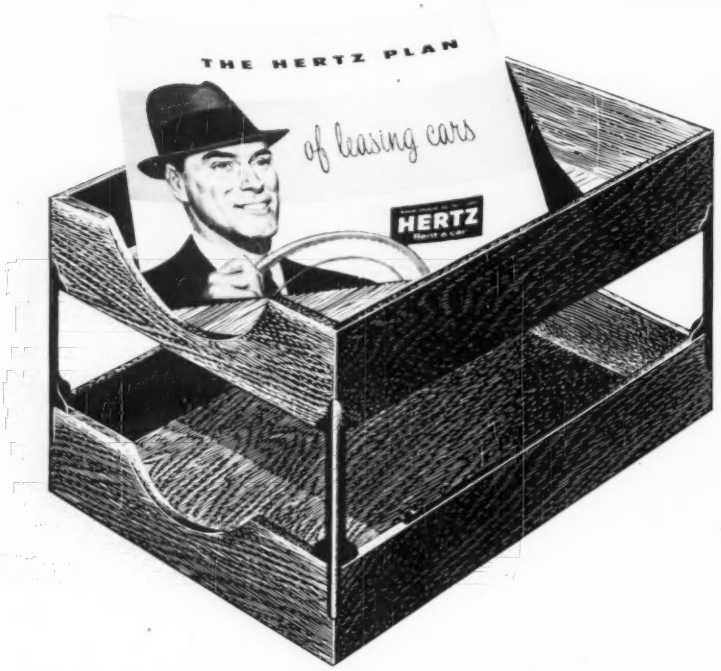

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Read how you get new cars—licensed, serviced and repaired—when you *lease* them from Hertz. How leasing frees your capital investment, ends bookkeeping problems. How nation-wide fleet operators profit by the Hertz centralized control plan. Large fleet or small, this booklet tells you how to get *every* advantage of car ownership—without the worries!

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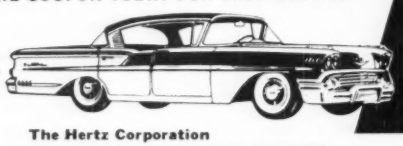

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calculated decisions and actions, some with the courage of desperation. Some will fail with honor, and a few will simply balk, like a man staring at the water from a high diving-board. In any event, their acts and decisions will be significant to management and the men themselves.

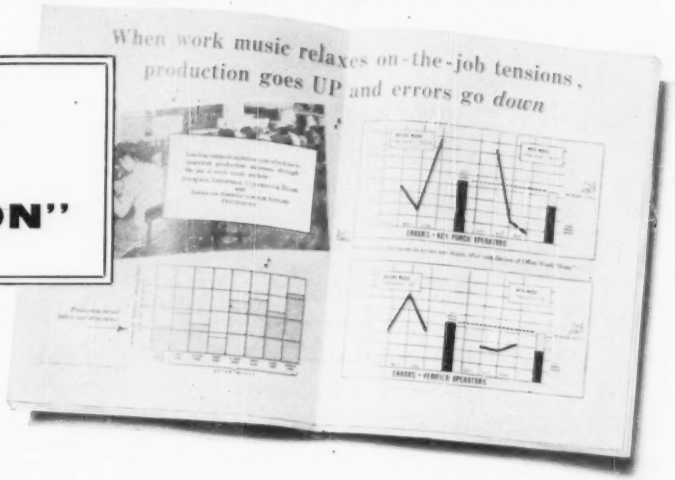
• Tom Kenny's article, "Management Takes to the Air," shows that an executive doesn't really have to keep his feet on the ground to make profitable decisions. With their heads literally in the clouds, a growing number of management men are riding, working, and conferring in company planes, but their decisions are still down-to-earth as ever. As planes and airport facilities improve, management will increasingly, no doubt, find itself "up in the air."

• The Soviet economy operates on a subsistence basis as far as the Russian consumer is concerned. Its only measure of success is statistical—that is, units of production. The human factors, while not entirely ignored, are secondary to the fixed political and economic objectives of the state. By contrast, the U.S. economy—and to a large extent that of the rest of the free world—is profit-motivated and stimulated by the emotional attitude of the consumer. When the consumer decides that he or she can do without, we are headed for trouble. The need for maintaining confidence seems uppermost in the minds of members of DR&MI's Presidents' Panel, whose replies to our latest survey are reported by Ken Henry in this issue. The chief threat to industrial prosperity in 1958 is "business pessimism and loss of consumer confidence"; yet 53 per cent of these presidents of America's largest companies expect better profits in 1958, and 58 per cent expect a rise in output over 1957. One fact is obvious: In a free market, the consumer is king, and his disposable, optional spending income is the fuel of the machinery of production and distribution.

One interesting side aspect of all our recent surveys on business prospects for 1958 is that the majority of business men queried expect to do better than competitors. This phenomenon has a healthy glow, no matter how competitive the year ahead may be. —A.M.S.

Let Us Send You, With Our Compliments...

"AN ANSWER TO WORKER TENSION"



This Booklet Shows You How MUZAK Can Increase Your Company's Profits

MUZAK Corporation would like to send you, without obligation, a copy of this booklet. It will prove of actual profit value to you . . . because it tells how 20 years of practical experience and scientific research have developed a simple way to cut operating costs to a degree clearly visible on a profit and loss statement.

The world has long been familiar with the powerful influence of music upon mind and body. But only in recent years have discoveries been made about the effect of music upon Worker Tension. And these have been applied by MUZAK to the development of an entirely new kind of music: *functional work music.*

A Tool of Modern Management

MUZAK is functional because it is created to perform a specific practical purpose. Like air conditioning, sound-proofing, fluorescent lighting, "music-while-you-work" by MUZAK has won a permanent place as a tool of modern management. It more than pays its way in increased efficiency and productivity. For example, typical of many such results, it has . . .

- Increased production 20% in the drafting department of the Fischer Lime and Cement Company of Memphis, resulting in a saving of $300 to $400 a month in one department alone.
- Increased production 9% and decreased absenteeism 7% for the Loft Candy Company of Long Island City.
- Reduced clerical errors in the auditing department of the City National Bank & Trust Company of Kansas City, by 11%.
- Increased production 5% and decreased absenteeism 5% for the National Gypsum Company of Buffalo.
- Increased output per operator in the work clothes plant of Bayly Manufacturing Company of Denver, by 10%.
- Increased key punch production of the Mississippi Power & Light Company's IBM operators to an 11-year high — two months after it was installed; and maintained this high level.

Why MUZAK Is So Effective In Reducing Worker Tension

MUZAK accomplishes such results because it is not "just *any* music." It is selected, recorded, and *scientifically* designed to do exactly what its subscribers report that it *does do.*

Every selection in MUZAK'S 10 million dollar library has been especially arranged, orchestrated and recorded for MUZAK'S own use . . . the only such collection of non-distracting background music available in the world.

It is scientifically programmed — based upon time of day, place, and type of employee activity. A different program for office workers and one for factory workers; also one for hotels, restaurants, banks, and other public places. Each program is in accordance with the psychological effects of music on people—as determined by 20 years of on-the-job experience.

Why MUZAK Is So Different From Ordinary "WORK MUSIC"

How can "just music" accomplish results like these? The answer is simple. It can't! For MUZAK is *not* "just music." MUZAK has spent twenty years perfecting a *scientific* way to meet the minimum requirements for a successful work-music program:

YOU NEED A SPECIAL KIND OF MUSIC which is "heard but not listened to"—which stimulates people without distracting them. MUZAK has its own exclusive $10,000,000 treasury of custom created *non-distracting* background music.

YOU NEED SCIENTIFIC PROGRAMMING to suit the time of day, place and type of work activity. Each MUZAK program is based on 20 years' study of the effects of music on people.

YOU NEED "CONTROLLED DYNAMICS" to penetrate noise barriers, mask out unwanted noise, without becoming distractingly loud — a technique which MUZAK has pioneered.

YOU NEED A COMPLETELY AUTOMATIC SYSTEM which avoids the cost of assigning personnel to purchase and store records or tapes, determine schedules, operate and maintain equipment. A flick of the switch starts MUZAK.

These four major MUZAK *"exclusives" tell you why ordinary "background music" just cannot accomplish what* MUZAK'S *scientifically planned service can do for you.*

Simply Mail The Coupon . . . to learn about the successful experiences of upwards of 20,000 progressively managed companies

Why not find out what MUZAK may be able to do for *your* company? Simply mail the coupon . . . and without the slightest obligation you will receive a copy of *"An Answer to Worker Tension."* *MUZAK Corporation, Dept. 51, 229 Fourth Avenue, New York City 3.*

MUZAK Does So Much . . . For So Many Kinds of Business

OFFICES find that MUZAK relieves the tensions caused by "noise fatigue" in rooms filled with the clatter of office machines. MUZAK penetrates noise barriers, masks out unwanted sounds.

FACTORIES AND PLANTS note a definite improvement in production and efficiency. They also report less internal friction.

BANKS find it pays to provide MUZAK both to customers and to employees. It creates a "nice to do business here" atmosphere . . . and, by relieving Worker Tension, aids concentration of clerical workers.

MUZAK is transmitted automatically from MUZAK studios in principal cities. Spot installations available for remote locations and TRAVEL MUZAK for trains, planes, ships and busses.

If you are interested in a MUZAK franchise, please write for further information.

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Please send me, without obligation, a free copy of "An Answer to Worker Tension."

Name ..... Position .....

Company .....

Type of Business ..... No. of Employees .....

Street .....

City & Zone ..... State .....

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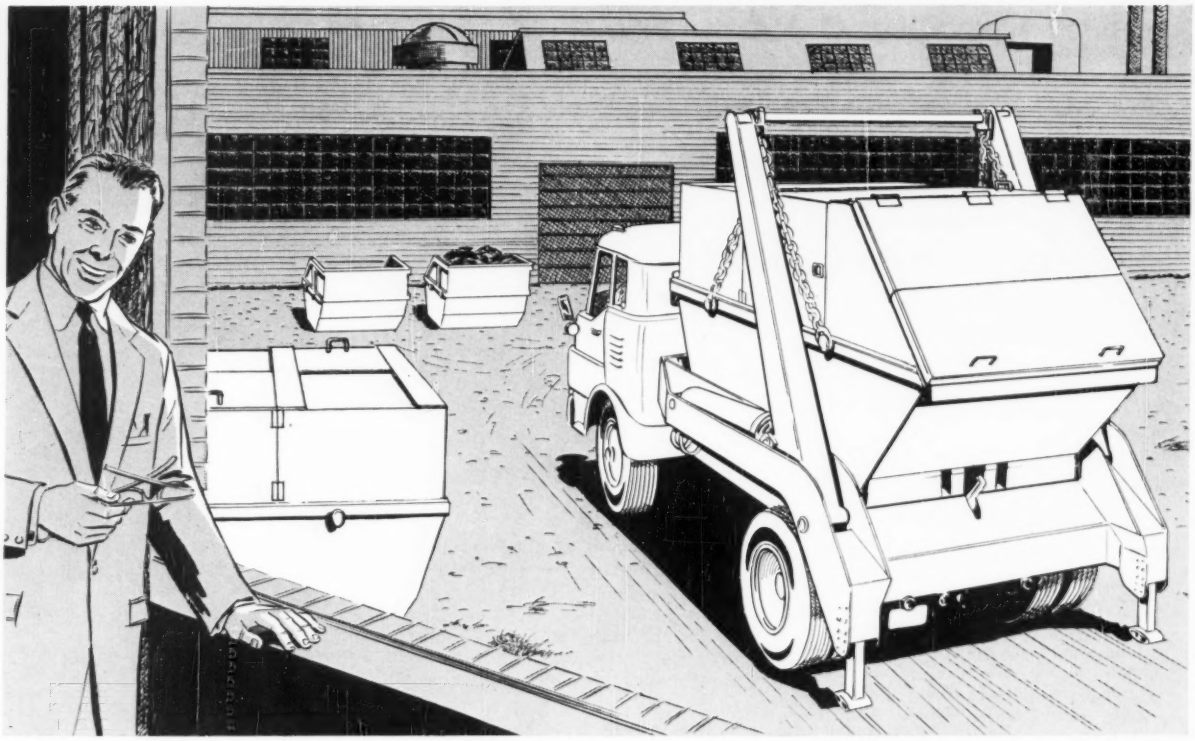


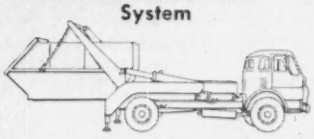
What does it cost *your* business to keep house every day?

Take a look around your plant. If rubbish is accumulated in drums or boxes you are undoubtedly paying for the labor of several men to handle them daily. Here's one of those areas where costs nibble at profits. Makeshift disposal adversely affects plant efficiency and also creates fire and safety hazards.

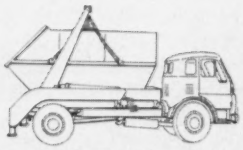
THE LOAD LUGGER SYSTEM reduces housekeeping costs as much as one-half. It helps improve plant efficiency. Where rubbish is accumulated in big Load Lugger containers*, neater premises and safer conditions result. One Load Lugger truck services many Load Lugger containers. Only one man, the driver, is needed.

It will pay you to investigate the versatile Load Lugger System today.

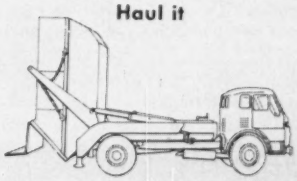
The LOAD LUGGER System



Hoist it



Haul it



Dump it

*Capacities 1½ to 16 cubic yards.

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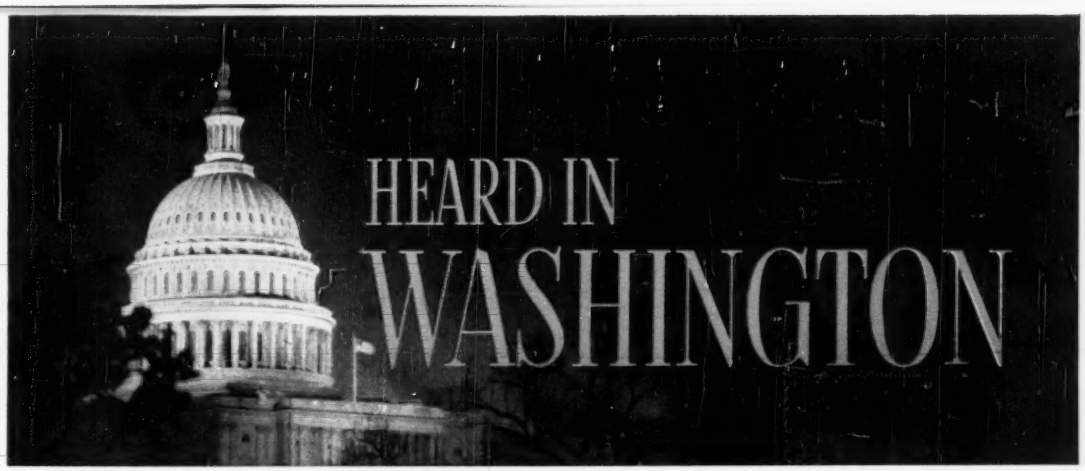


HEARD IN WASHINGTON

WASHINGTON, D.C.—Congress is planning to take several Government agencies to the woodshed this session. Investigations will follow a score of lines, and the likely victims are busy preparing to meet the onslaught. The objectives will for the most part be political—with an eye cocked not only at this year's elections, but at 1960's as well.

The battle of the budget will be bitter. Efforts to reduce spending for public works and for aid in various forms will meet powerful resistance from the interests affected. And the Administration will fight for foreign aid with everything it has. The Cabinet already has its marching orders: to go down the line for freer trade. When the Reciprocal Trade Act comes up for extension, the battle will be joined. In that tussle, however, the Administration will have support from the Democratic camp. The House Ways and Means subcommittee on foreign trade policy has rolled up an impressive record in hearings here and abroad. Representative Thomas Hale Boggs (D., La.), chairman of the subcommittee, says a five-year extension of the Reciprocal Trade Act and more liberal concessions would give great boost to the automobile, television, and other industries in the U.S. that are facing declining demand at home. The Administration is also requesting a five-year extension, but probably only for bargaining purposes. Protectionist strength is sufficient to hold the extension to one year, and advocates of freer trade will have all they can do to keep the bill from being crippled with protectionist amendments.

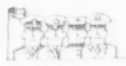
Vice President Richard Nixon is plugging hard for foreign aid through stepped-up purchases from other countries, including neutrals.

It has also been suggested that if some American armed forces abroad could be replaced with Allied troops, there would be extra money for foreign-economic aid. For it costs much more to maintain American soldiers abroad than those of other countries. In Korea, for instance, the cost is seven times more per man.

All the influence the Administration can bring to bear will be arrayed against a tax reduction. Since this is a political year, pressure for tax legislation will be strong. No one running for office wants to vote against reducing taxes, but a majority in the Senate, at least, will do so if it comes to a showdown. The only thing that might change Administration policy on taxes would be an unexpectedly severe downturn in business.

Senator Estes Kefauver (D., Tenn.) and Representative Wright Patman (D., Texas) expect to press for action on their bill to close the "loophole" left by the Supreme Court decision in the Federal Trade Commission case against the Standard Oil Company of Louisiana. This decision held that lowering a price to meet a competitor's price was justified. The case, incidentally, is before the Court again. The Federal Trade Commission contends the reduction was not made in good faith.

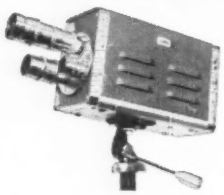
Application of bank regulations to the nonbank credit agencies may be considered at this session of Congress. These institutions have become so important that more and more they are exercising commercial banking functions. The question of state or federal control is also at issue, as is the whole matter of branch banking. Because of the strength of vested interests, it will be difficult to make changes in the existing structure.

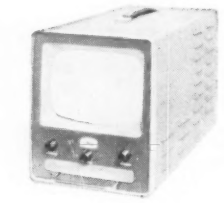


Congressional advocates of increased defense expenditures will get powerful support from the Gaither report, which points out the enormous difficulties of defending the U.S. in this day of missiles, rockets, and nuclear devices. Even though the report is being denounced as jingoistic, it will not be lightly dismissed, since its chief architects are William C. Foster and Robert C. Sprague, both conservative business men.

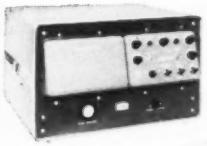
No committees in Congress will be busier during this session than the Public Works Committees of the Senate and the House. Highway-program complexities have been compounded by the sharp upturn in costs of materials, labor, and rights-of-way; by the demands for the extension of the interstate system; by the problem of reimbursing utilities whose facilities have to be moved; by changes in standards; and by the

Which System DO YOU NEED?





TC-100 System is a low-cost, reliable industrial television system ideal for most applications. The TC-100 Camera may be connected directly to Du Mont picture monitors or to standard television receivers.



TC-200 System is designed for the most critical operations requiring maximum resolution. TC-200 Camera is extra-compact. Associated circuitry and camera controls are separate unit. Used with Du Mont picture monitors or standard television recivers.

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PLUS... All types of accessories making industrial television practical for any installation for any purpose. Either system may be remotely controlled so camera may be moved from side-to-side, up-and-down, focused, and lenses changed from a remote position. Du Mont supplies everything you need for a complete industrial television system—everything matched to work together.

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demands for additional lanes in some areas. All these difficulties pose the problem of whether to increase taxes, decrease mileage, lower standards, or push ahead the deadline for completion of the program. The latter solution seems the most likely.

Here are a few other prospects for Congressional action at this session:

- Problems of the railroads will be given more sympathetic study than ever before.
- Automobile-pricing hearings will make headlines, but achieve no legislation.
- The Department of the Interior is pressing for a long-range mineral program.
- A pre-merger notification bill has a chance.
- The financial institutions bill, a highly technical measure, which the Senate passed at the last session, is not strongly opposed and will probably go through at this session.
- Postal-rate increases, which won House approval in the first session, must still clear a high hurdle in the Senate.
- The Senate Small Business Committee is sympathetically inclined toward making the Small Business Administration a permanent agency. The House has already passed a bill to that effect.
- Changes may be made in estate-tax requirements to spread payments so that heirs will not have to pay the whole tax immediately.
- Democrats hope to get the increased minimum wage through the Senate. It will provide a campaign talking point.

Labor legislation will probably not go beyond a requirement that unions make public a complete accounting of pension and welfare funds. Fair-election practices, including a secret ballot, may also be prescribed. The Taft-Hartley Act is vague on "stranger" picketing; that may be clarified. Discussion on the floor and reports of committees will spark renewed demand for state action on right-to-work laws.

There is little pessimism in Washington about the business outlook. This is true of career officials as well as of those in appointive jobs, even though everyone agrees that 1958 will be characterized by intense competition, with lower corporate profits, increased resistance to wage increases, and tough controversies between management and labor. A special inquiry also shows a marked increase in consumer interest in cut-price sales.

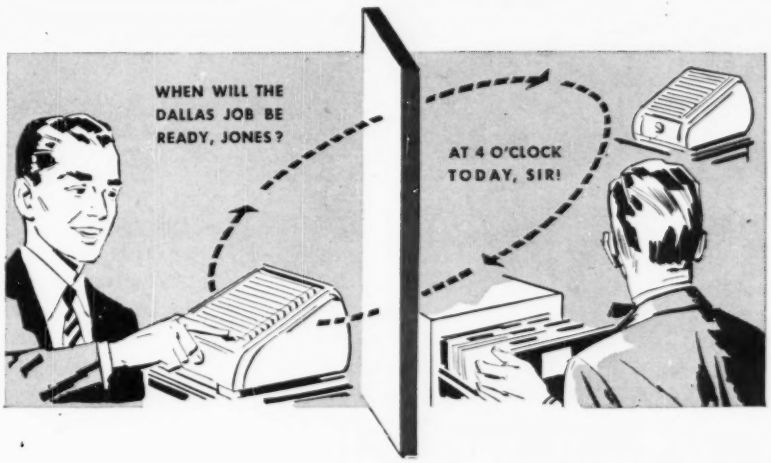
An effort is being made by the Security and Exchange Commission to streamline procedures for the sale of stock by small-business enterprises. Easing the rules in certain particulars would remove some of the difficulties. During the last session of Congress, the Senate approved a bill exempting issues of corporate securities that do not exceed a total of $500,000 from registration. The measure is now pending in the House. If passed, it would reduce the cost of floating an issue of securities. Incidentally, a Federal Reserve Board survey shows that two-thirds of total credit required for the establishment of new wholesale and retail concerns comes from the personal savings of the owners.

Statistical returns made to the Government by the automobile industry point up a long-range promise that should not be obscured by short-range gloom. Decentralization of cities not only makes an automobile a necessity for every family, but frequently means a second car may also be needed. Another point of promise: the proportion of the population that is coming of car-buying age is increasing rapidly.

During the past six years, according to a Federal Reserve estimate, consumers have used 85 per cent of their incomes for goods and services. Other major spending areas in the economy have waxed and waned, but consumer expenditures have risen steadily every year, except one, since 1933.

Paul Wooton

How to get more working minutes per hour!



There's no need for personnel to waste valuable time walking back and forth for information and instructions. With Executone Intercom they just push a button and talk—*instantly!*

Walking time becomes *working* time. Telephone lines are kept open for outside calls; roving employees are located *immediately!* Production is increased, costs are cut.

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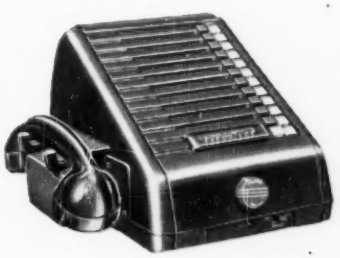

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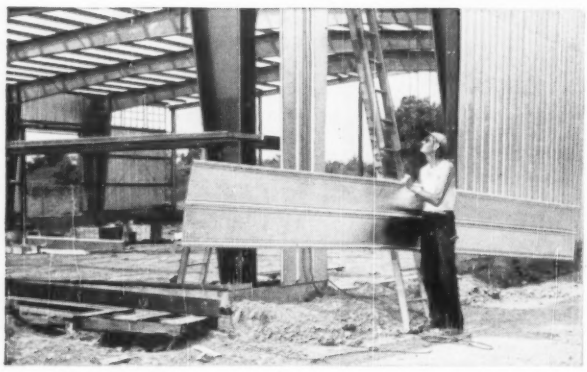
Does your company need a new factory or warehouse or other new construction to take advantage of recent market developments? Are you hesitating to expand because of high costs of capital and construction?

Many companies who have been faced with this same dilemma found that the Butler System of building offered economies sufficient to offset high interest rates . . . high building costs.

By combining mass-production techniques with modern engineering and building principles, this unique system effects *significant savings* in both time and money over traditional construction methods.

Routine engineering time is minimized because the structural frame and all components are pre-engineered. Building costs are reduced because the precision parts assemble quickly, without modification. Weeks, even months of planning and erection time are eliminated.

There is no need to waste precious capital over-building at the present in anticipation of future requirements. A Butler building can be quickly and economically expanded whenever required, because it is made of completely standardized parts.



Contact your Butler Builder. He can show you how these and many other advantages of Butler buildings can help you develop a realistic, standardized building program. Then . . . when you need a new factory, or want to expand an existing plant, you can virtually order it by phone . . . like any other standard tool. Your Butler Builder is listed in the Yellow Pages of your telephone directory under "Buildings" or "Steel Buildings." Or write direct.

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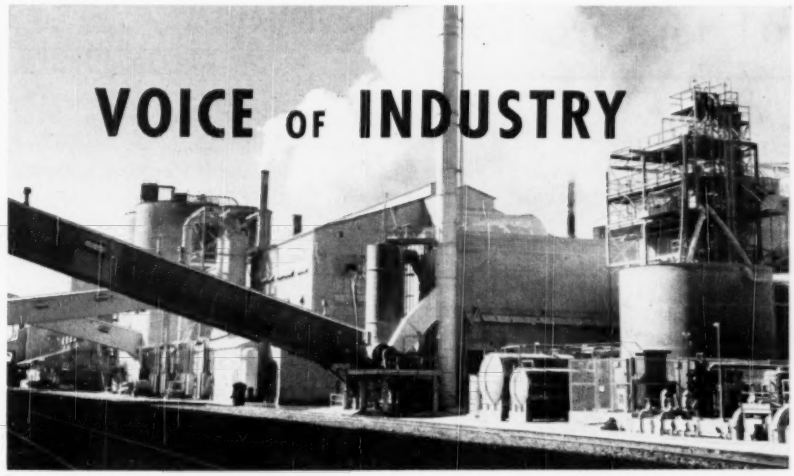

Devaney Photograph

People, it is often said, are the beginning and the end of successful management. Four presidents view the human problems of business . . .

- *Providing for management succession*
- *Individualism and the innovator*
- *Human factors in cost control*
- *Tooling up for top-level decision making*

MANAGEMENT IN DEPTH: TRAINING SUCCESSORS

ROY C. INGERSOLL, *President, Borg-Warner Corporation, before the Southwest Management Conference.*

Probably never before has there been such a vital need for creating and building "management in depth" in business organizations both large and small.

In simplest terms, to build "management in depth" within any company means to make sure that each key executive position is filled by a well qualified individual who is performing competently – also to make sure that this executive is backed up by a complete set of qualified persons potentially capable of stepping into his shoes.

Industrial operations today are more than twice the level of the pre-World War II years. Yet numerous companies are being directed by executive staffs no larger than they were two decades ago. Thus they become weakened in a critical portion of their corporation anatomy—which lies at the top of their heads.

One of the most essential ingredients in any management development plan is for each member of the management group to train one or more outstanding men to qualify as a replacement for himself.

Too many people in management positions do not train outstanding men under them for fear that the outstanding person will take their own jobs. My feeling is that the most valuable executive is one who is training somebody to be a better man than he is.

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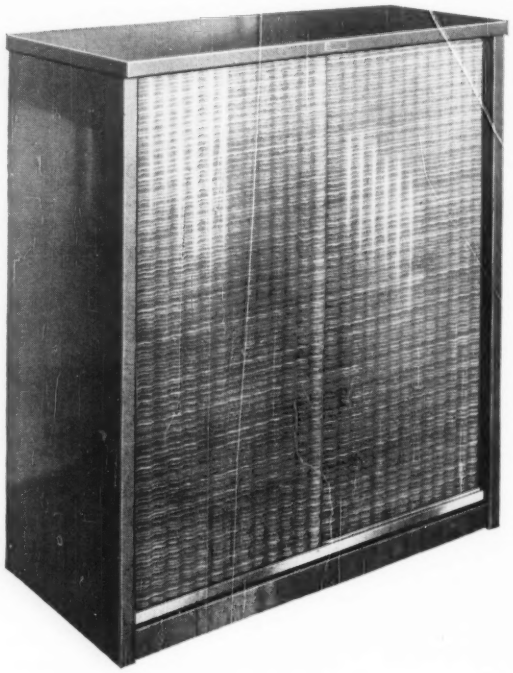

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When you visit your office equipment dealer, ask him to show you the new Borroughs BORITE sliding door cabinets. BORITE is an unbreakable composition of plastic and fiber glass in a "Furrow" pattern, available in four beautiful colors — Beige, Aqua Glo, Pinktone, Citrone Yellow. Here's an ideal opportunity for you to be your own interior decorator. Choose a Borroughs cabinet in Spring Green, Dark Green, Gray or Fall Tan — then a harmonizing color of BORITE door — and you'll have the most beautiful and practical cabinet you have ever seen. Why not try it!

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INDIVIDUALISM RECONSIDERED

KEITH S. McHUGH, *President, New York Telephone Company, before the AMA Management Course for Presidents.*

A good many critics of business take the view that current organization life tends to stifle individual initiative, rewards technicians rather than innovators, and makes a virtue of conformity.

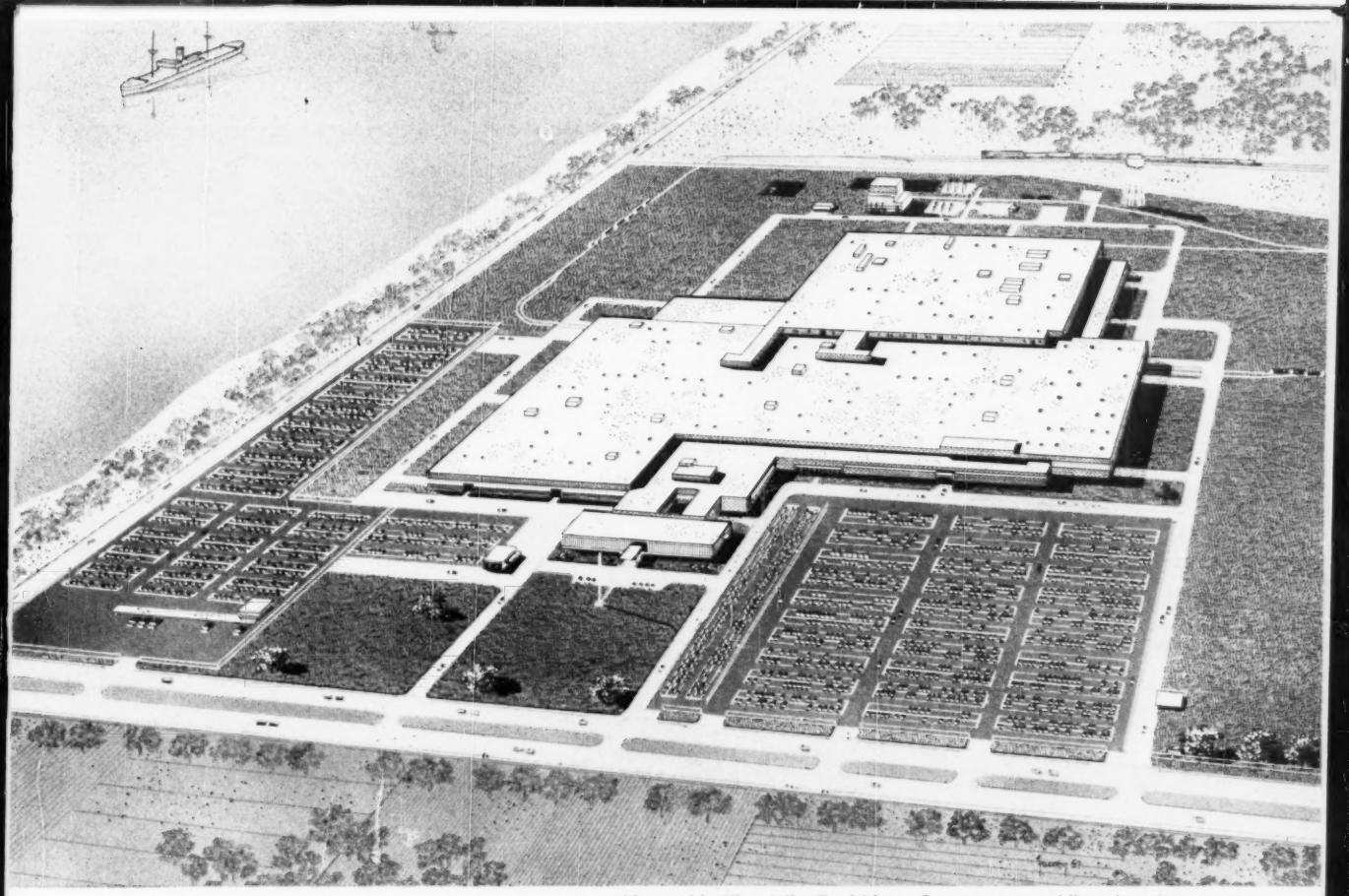
Certainly the rugged individualism of our early industrial society has largely disappeared, and there is a considerably greater emphasis on teamwork and the advantages of working together and pooling ideas. But to conclude from this that individualism within the team is dead or dying in America is really nonsense.

The practical results which have made the United States the strongest economic nation in the world could never have been attained without hundreds of thousands of instances of individual initiative in business organizations. They certainly could not have been reached if a virtue had been made of conformity. The social and economic structure of our society is changing—there is no denying that. But this does not mean there will be any lower premium on initiative and innovation in the future than there has been in the past.

TONING UP FOR COST CONTROL

C. J. BACKSTRAND, *President, Armstrong Cork Company, at the 36th Annual Convention of Armstrong Wholesale Distributors.*

The old maxim that it is necessary to spend money to make money is just as valid now as ever. But [today's highly competitive market] calls for a careful consideration of all areas of expense to determine realistically those that can be trimmed or eliminated.



New multimillion-dollar Ford Motor Company automobile and truck assembly plant under construction on 203-acre site near Lorain, Ohio.

New York Central helps Ford find "perfect site" for new assembly plant

When the Ford Motor Company was looking for a location to build a new assembly plant, New York Central came up with several plant sites. A 203-acre location just west of Lorain, Ohio, according to Ford officials, was a "perfect site" in meeting Ford's requirements.

New York Central Plant Site Consultants arranged conferences with various owners of the land . . . worked through Township Trustees for re-zoning . . . obtained co-operation of County officials for highway improvement and for construction of sewage facilities . . . arranged with various city and utility officials for adequate supply of water, gas and electric power.

New York Central has additional plant sites of 53 to 1500 acres in Lorain County, Ohio . . . several plant sites ranging from 15 to 650 acres in the adjoining Cuyahoga County . . . hundreds of other locations along the route of the New York Central Railroad.

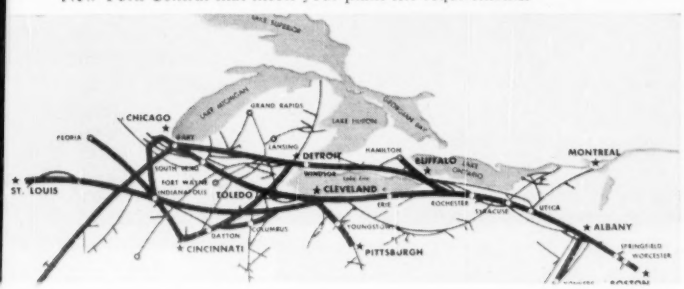
Let New York Central be your source of reference for data on raw materials, natural resources, markets, labor, power and fuel, community services, etc., in locating a plant site to meet your needs. Our Consultants will help you choose the plant site most advantageous to you.

Write to: John Dan, Manager Industrial Development, New York Central Railroad, Industrial Development Department (E), Terminal Tower Building, Cleveland 13, Ohio.

New York Central can help you too!

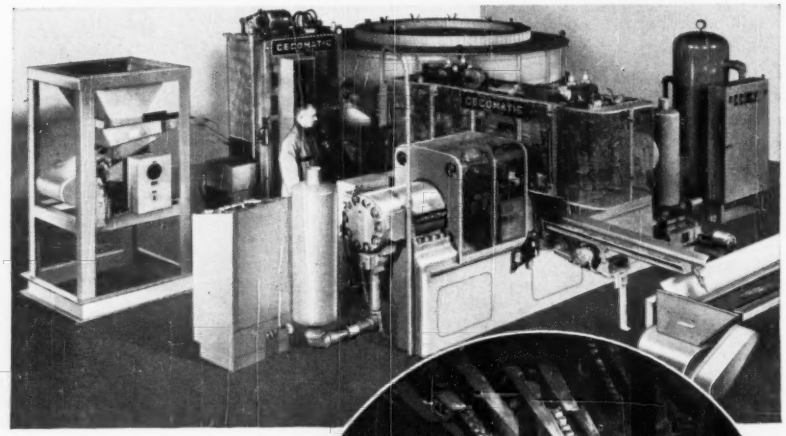
- The services of our Plant Site Consultants, on a strictly confidential basis, are available without charge.
- Plant site appraisal reports are tailored to your type of operation.
- We assemble the necessary acreage.
- Our staff aids in expediting plant construction in many ways.

There is a "*Central*" location on the modern 11,000-mile rail network of the New York Central that meets your plant-site requirements.

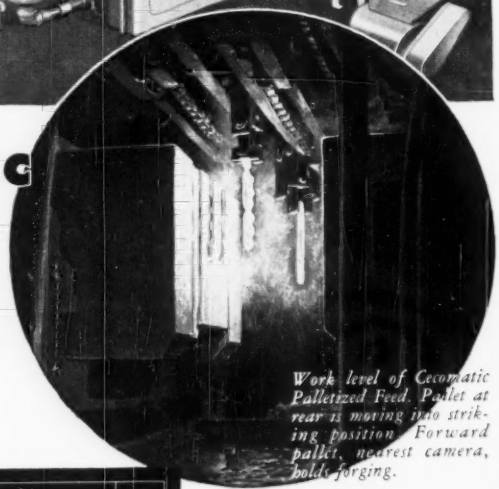


Other sites in the Lorain, Ohio area are also excellent locations for national distribution, good labor supply, ample resources and power, fair tax rates.

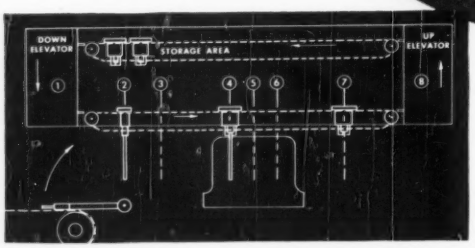
A Radically NEW Concept of the Forging Process



AUTOMATIC FORGING *with* MULTIPLE DIES



Work level of Cecomatic Palletized Feed. Pallet at rear is moving into striking position. Forward pallet, nearest camera, holds forging.



(Left) The Palletized Feed affords maximum flexibility in multiple stage impression die operations. (1) Free pallets with stock handling tongs, move from Storage Area to Load Position (2). (3) Station used if preforming of stock is desired (4, 5, 6) Pallet is successively positioned at one or more forging stations in the Impacter. Single blow is struck at each station. (7) After forging, pallet is positioned at Unloading Station. (8) Up elevator conveys pallet to upper track for return to Storage Area.

CHAMBERSBURG CECOMATIC FORGING PROCESS

The Chambersburg Cecomatic Forging Process offers new opportunities to produce impression die forgings faster and cheaper, based on the shockless Chambersburg Impacter that forges by means of horizontally opposed impellers. The Cecomatic Process unites all forge shop operations into one continuous process—free from manual skills. Automatic forging permits mass production of quality forgings with fewer rejects due to misplaced stock. Savings are often possible through process simplification or material savings. Write for descriptive data.

CHAMBERSBURG ENGINEERING COMPANY • CHAMBERSBURG, PA.

Inevitably in any extended period of expanding business, many non-essential expenses become accepted as necessary cost. Expense accounts get fatter. Unnecessary trips are made. There is some laxity in working schedules. Extra days off are taken here and there to take care of personal matters that aren't really emergencies. And people are added to the organization when there is no real need for their services.

These are the non-essential expenses—the fat of the business—that must be trimmed away. But we must be sure that in our eagerness to get our organization down to fighting weight, we do not cut away muscle.

NEW TOOLS FOR EXECUTIVE DECISION

WALTER W. FINKE, *President, Datamatic (a division of Minneapolis-Honeywell Regulator Company), at an American Management Association Special Conference on Operations Research.*

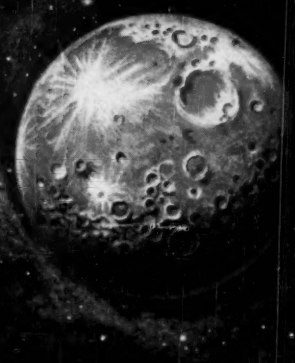
Few things have been as susceptible to invention, innovation, and just plain improvement as American business methods. In fact, change is so rapid that each generation of business men can look back with disapproval and wonder how Grandfather or Father, or both, ever made a profit doing things in such an inefficient, wasteful manner.

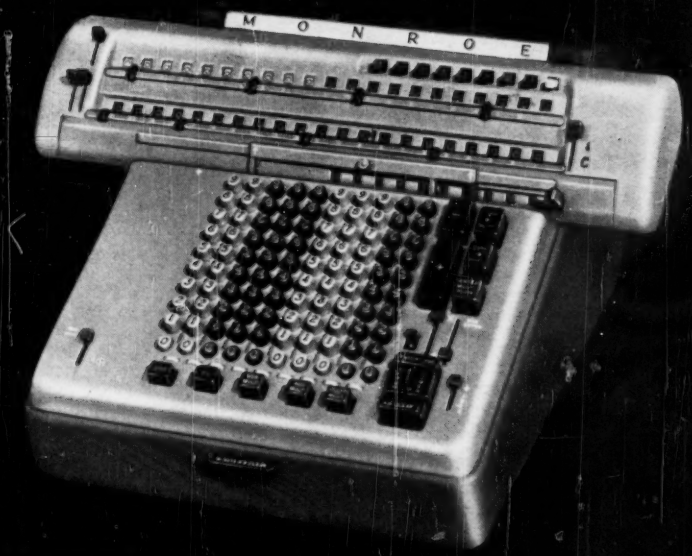
Yet despite vast changes in both tools and techniques of business operation, one aspect has never lost its importance, nor has it been relegated to mechanical operation. And that is the ability to make a decision!

Whether it involves judgment, experience, hunch or intuition or a relatively cut-and-dried decision based on incontrovertible facts—it is and always will be made by the good old reliable, enduring Mark I Human Being.

Yet because of the evolution of scientific analysis into management procedures, and the untapped potentialities inherent in electronic digital computation, the sophisticated character of the facts and figures becoming available to the executive open new vistas for decision-making.

The World's Most ADVANCED Calculator saves you the most money





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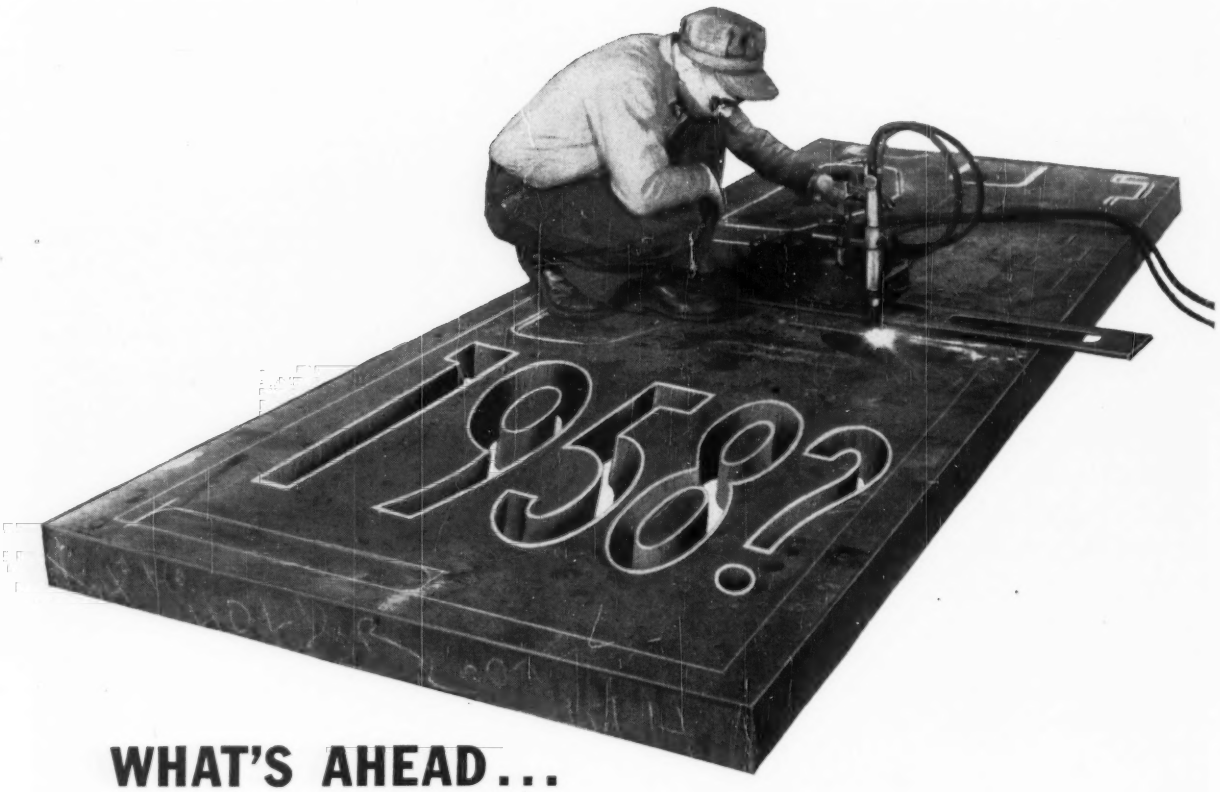

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THE TREND OF BUSINESS

AT THIS WRITING, 1958 looks as though it will be a fairly good year for the economy—down a bit in physical terms, but up again in dollars. The current recession should be a shallow one, with dollar demand recovering before midyear and real output hitting bottom in the Summer or, at latest, early Autumn.

For the year as a whole, output of goods and services (gross national product) should total about $440 billion. This is close to 1.5 per cent higher than in 1957, in current dollars, but represents a slight dip in constant prices. The Federal Reserve Board index of industrial production will be off more, averaging perhaps 138, as against 144 last year. Prices in general will exceed last year's average by 2 per cent plus. Employment will fall somewhat, and joblessness should rise significantly as the labor force grows and productivity per head increases. Corporate profits will also be off—probably 6-7 per cent. These forecasts do not allow for any Federal tax cut, but assume a moderate relaxation of credit.

Consumer spending

Although certain not to advance as much as it did between 1956 and 1957, consumer buying will record a significant gain. Even though the virtual leveling off of non-consumer demand, to be discussed later, will sharply limit the rise in earned personal income, the trend in consumer spending will not be proportionately dampened. There are several reasons for this.

First, personal income before taxes will be bolstered to a greater extent by growth in some kinds of transfer payments—especially unemployment compensation benefits.

In addition, the gap between income before and after taxes will narrow—in part because a larger proportion of the rise in the former will consist of tax-free income (Old Age and Survivors Insurance pensions, unemployment compensation benefits, etc.).

And a larger share of disposable income should be spent. One reason for this will be the unabated growth in population in the face of a slowdown in growth of income after taxes. Also, with money looser overall and debt contracted for the purchase of 1955 autos repaid, expansion of consumer credit (a form of "dis-saving") should be greater. (While only a marginal gain in car sales seems likely, installment purchases of cars may well rise. The step-up in home building should also lead to higher credit—as well as total—sales of furniture and some major appliances after midyear.)

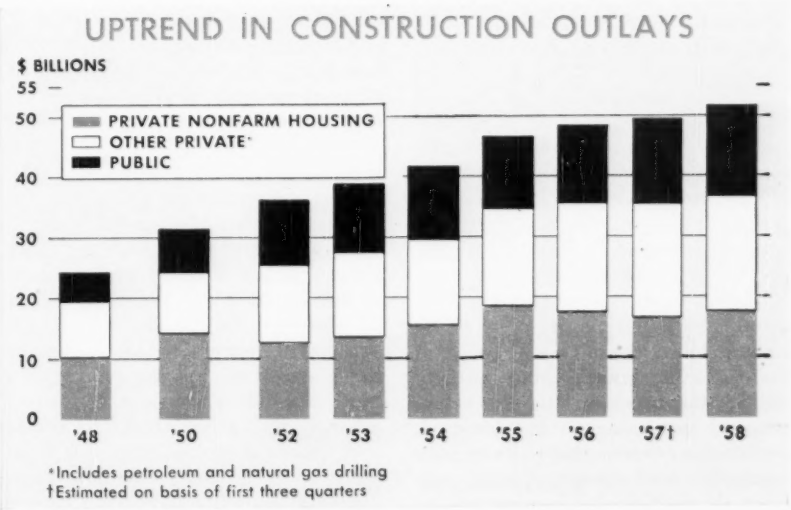
Over-all, consumer outlays ought to run more than $7 billion above 1957. All three major subdivisions should advance, with durables probably edging forward more percentagewise. (In absolute terms, the major gains will, of course, take place in nondurables and services.) The total rise in spending, however, will not be more than 1 per cent or so greater than that in population. With consumer prices almost certain to exceed their 1957 average by a wider margin, real consumption per capita will thus be lower for the second straight year.

Government outlays

For 1958 as a whole, government spending should rise only about two-thirds as much as it did in 1957, around $4 billion vs. over $6 billion. The time pattern, however, will differ sharply. In 1957, spending rose steeply into late Spring and then leveled off. In the year ahead, it will remain virtually stable until Spring, then move upward.

The major change from 1956–1957 will occur in the Federal area, particularly in *outlays for national security*. It now looks as if these outlays would advance instead of flattening out, as was expected earlier, but would do so by a much smaller amount than last year. But how much of a *net* increase the Administration plans to propose, and how much, if at all, this is likely to be altered by Congressional action, is difficult to foresee.

The best guess is that in fiscal 1959, outlays will exceed their fiscal 1958 level by about $2 billion, with the step-up increasing markedly during the year. If so, calendar 1958



Dollar outlays for construction will set another record in 1958, crossing the $50 billion mark. In physical terms, however, although building activity promises to exceed last year's total, it should fall below its level in 1955—the all-time peak year. Private nonfarm housing will more than account for the total shortfall of 1955 performance. Physical volume of public construction will reach a new high, and other private construction will do well. (Sources: 1948–1956, Department of Commerce; 1957–1958, authors' estimates.)

LOOKING FOUR QUARTERS AHEAD . . .

First Quarter 1957	Second Quarter 1957	Third Quarter 1957	Fourth Quarter 1957	Total	*Figures in billions of dollars at seasonally adjusted annual rates**	First Quarter 1958	Second Quarter 1958	Third Quarter 1958	Fourth Quarter 1958	Total
429.1	434.3	439.0	434.0	434.11	GROSS NATIONAL PRODUCT	433.6	435.9	441.0	449.1	439.9
276.7	278.9	283.6	283.3	280.6	CONSUMER SPENDING	283.6	285.3	289.0	293.7	287.9
85.6	86.9	86.7	86.8	86.5	GOVERNMENT OUTLAYS	87.7	89.0	91.1	93.2	90.3
66.9	68.5	68.7	63.9	66.9	PRIVATE INVESTMENT	62.3	61.6	60.9	62.2	61.8

* Detail will not necessarily add to totals due to rounding.

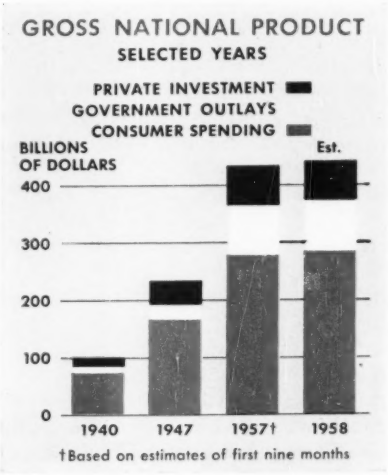
should run about $600 million above calendar 1957. Spending for missiles, anti-missiles, satellites, space platforms, submarines, radar systems, and Strategic Air Command operations will rise. Some pay increase is in prospect for a substantial number of Defense Department workers. Foreign aid should be given a fillip. In aggregate, these gains will outweigh the cut in military construction and the further reduction of military manpower now in prospect.

Will the rise in national security spending be offset by cuts in nondefense programs? The initial budget for fiscal 1959 may convey this impression. In fact, however, *outlays for nondefense goods and services* are more likely on balance to rise somewhat than to decline. At any rate, Commodity Credit Corporation price-support payments should increase a bit. And with consumer prices at an all-time high, at least a moderate cost-of-living bonus for employees in civilian agencies is probable, especially if widespread wage and salary increases are granted in the Defense Department. A net advance of $300 million is not unreasonable to expect.

For *state and local government spending*, the outlook is clearer. Despite an expected slackening in over-all demand and the resultant drag on tax receipts, states and localities should boost outlays by close to $3 billion. With the highway program due for a big jump, school building still on the increase, and the urban renewal program moving forward, outlays for construction will rise substantially. And operating costs, particularly wage and salary payments, will continue to advance.

Private investment

More than counterbalancing the prospective rise in the public sector, private investment will fall off somewhat. Of its four major components—private nonfarm housing, other domestic fixed investment (equipment and other private construction), net foreign investment, and inventory investment—all but the first should be down. In aggregate, a drop of around $5.2 billion seems likely.



So far as can be seen now, the biggest dip will take place in the second component, *domestic fixed investment excluding nonfarm housing*. This apparently reached its peak some time last Summer, and the consensus is that it will move downward all through the coming year. Disagreement centers on the extent of the downtrend. Many people are quite pessimistic. Some even foresee another 1937–1938, when both dollar and physical volume tumbled by more than 25 per cent. However, available evidence suggests that the decline will be rather modest—not quite double the drop of 3.4 per cent that took place between 1953 and 1954. And as in that period, the over-all decline will be made up of a larger dip in purchases of equipment, offset in part by continued growth in private nonresidential building.

As indicated in the chart (page 19), private construction excluding nonfarm housing has moved strongly ahead all during the 1950's. The gain next year will be smaller than in 1956 or 1957, but still significant. Even though during most of 1957 dollar awards for industrial plants failed to match the corresponding 1956 levels, the decline has been more than counterbalanced by step-ups in other major classes of private nonresidential structures. Moreover, October data (the latest available) indicate not only another marked advance in these areas, but some improvement even in awards for factories. Since this year's awards will in good part govern next year's spending, the general trend seems plain enough. It would not be surprising if, in 1958, the value of private building excluding housing put in place increased about $200 million.

Purchases of durable equipment will drop much more than construction will rise, but by historical standards the adjustment will not be sharp—about 11 per cent. Admittedly, new orders for machinery and transportation equipment have been running below sales (and sales themselves are just about holding stable) for several months. In good part, however, the over-all shortfall has been due to a decline in military business. For civilian business, the drop in bookings has not been severe, and unfilled orders were still substantial in mid-Autumn. Furthermore, it is clear from recent surveys of order expectations for the first nine months of 1958 that producers do not yet see good reason to look for a serious decline in new business during that period. Such pieces of evidence appear quite consistent with surveys of capital spending intentions for the

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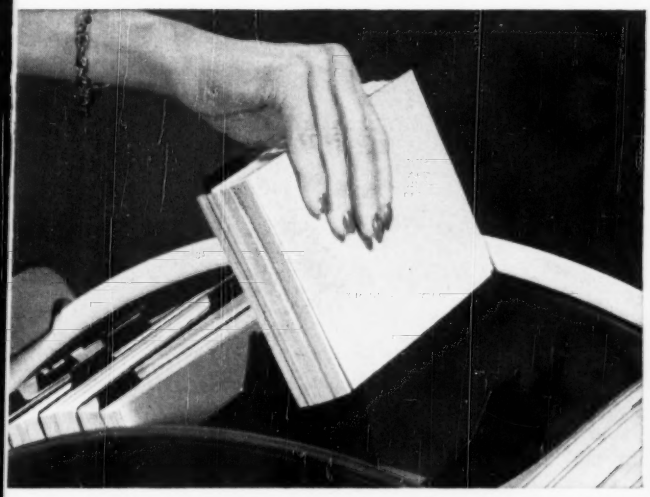

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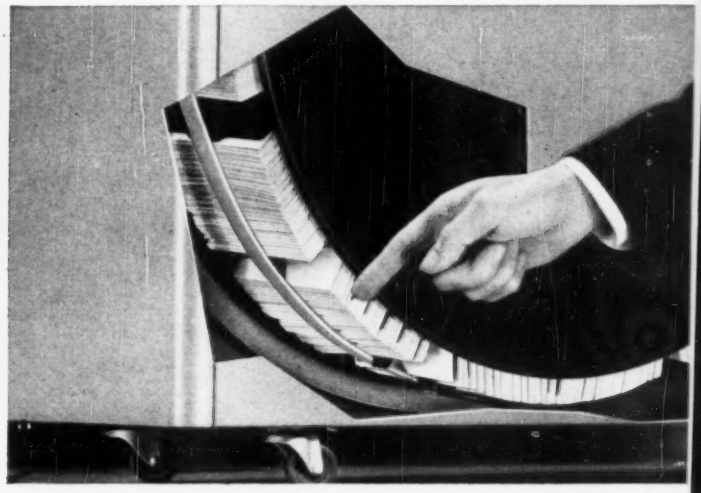

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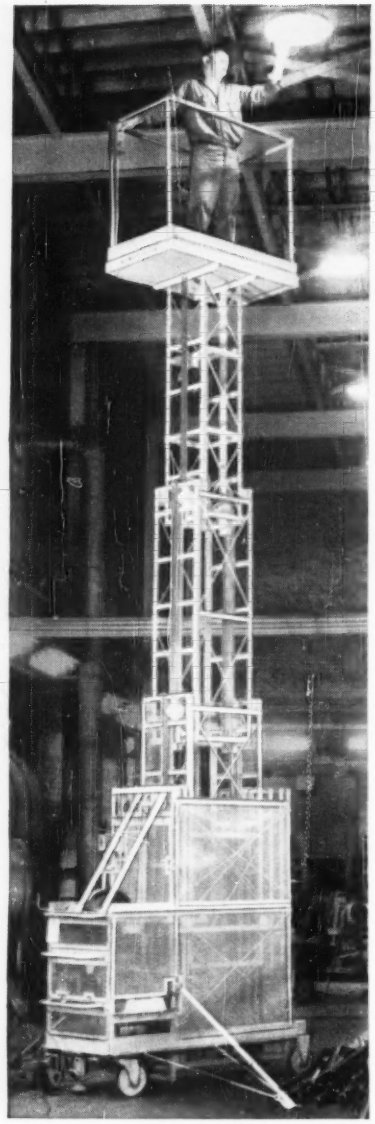

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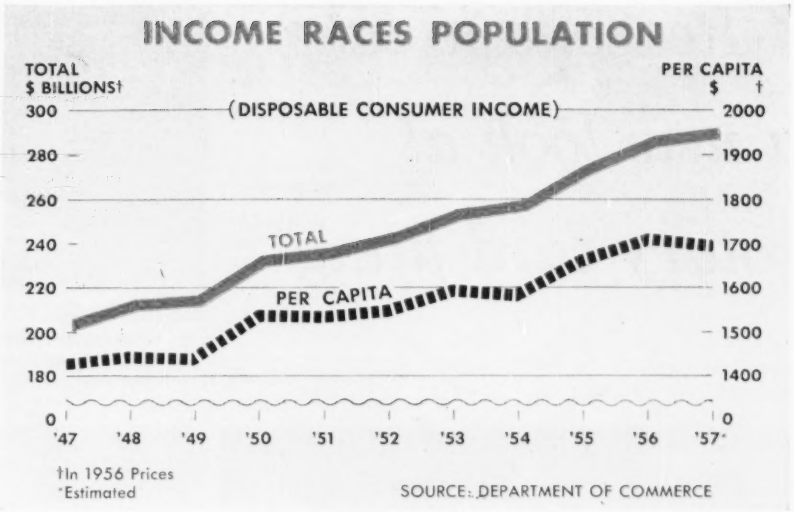


Although post-tax consumer income in constant dollars set another high in 1957, a record-breaking growth in population and a sharp rise in prices led to a moderate fall in "real" spendable income per person. Last year's level, however, was still more than one-sixth above that of 1947. And the true gain over this period has been even larger than per-capita figures suggest, since the group under sixteen years of age and over 65—whose need for goods is below the national average—has increased more rapidly than total population, thus advancing real income per "adult-equivalent" faster than real income per head.

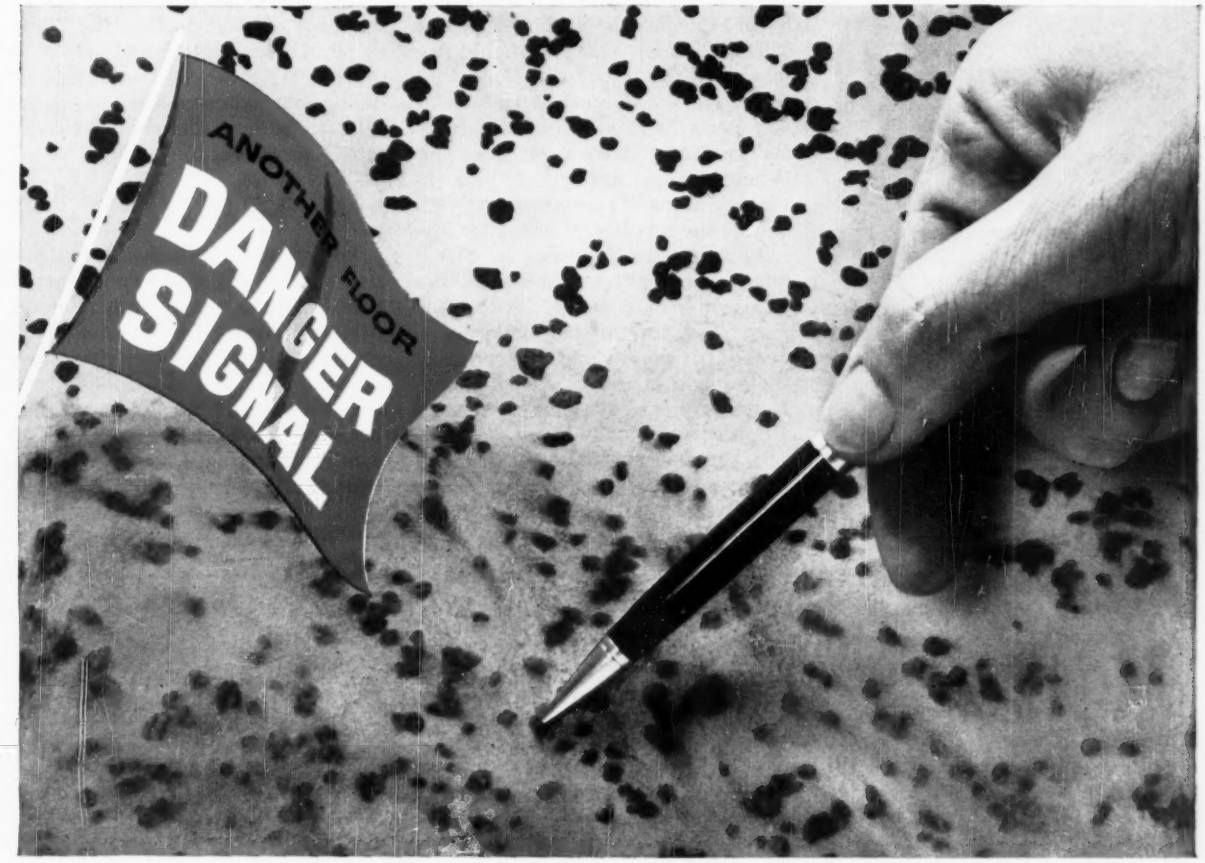
year as a whole. Even though failing to cover some fields in which outlays will advance, these surveys typically show that business plans a modest over-all cut (5 to 10 per cent) in outlays for both plant and equipment. Allowing roughly for the exclusion of expanding areas, these indications imply only a moderate decline in equipment outlays.

Why then is there so much concern about the outlook? The main reason appears to be that big cuts are virtually certain to occur in those fields about which people hear most. Spending by the railroads should drop by more than a quarter. So will that of mining companies. There will also be a sizable decline in manufacturing. Cutbacks will be especially sharp—one-fifth or more—in the steel, auto, paper, textile, and non-electrical-machinery industries. In fact, apart from makers of electrical machinery, and perhaps petroleum refiners, all major lines should dip somewhat. For the area as a whole, spending could be down as much as one-sixth.

Important as they are, however, manufacturing, mining, and the railways seldom account for the bulk of capital spending. Last year, for example, their outlays represented only about one-third of total domestic demand for producers' equipment and for private construction excluding nonfarm housing. And in other large fields, prospects are brighter. Petroleum drilling, electric utilities, and institutional building should register slight gains. Commercial building may also go up. And only modest declines seem likely for gas utilities and the communications industries.

At this writing, it appears that business men will cut their *inventory investment*, as well as their fixed investment, this year. In the main because sellers accumulated stocks heavily in 1956, many of them found inventories a bit on the high side last March. Expecting sales to advance further, these sellers sought to restore the balance merely by tempering the rise in their own orders. For various reasons, however—notably the unforeseen cut in defense spending—sales leveled off in the Spring and Summer, causing slight further additions to inventory. While sellers have been cutting orders in recent months, a moderate sag in sales last quarter limited the reduction in stocks then. Some adjustment, therefore, has still to be made.

In the nonfarm sector, a shift from accumulation of perhaps $300 million in 1957 to liquidation of close to $2 billion seems probable. (In the private economy as a whole, the switchover will doubtless be smaller.



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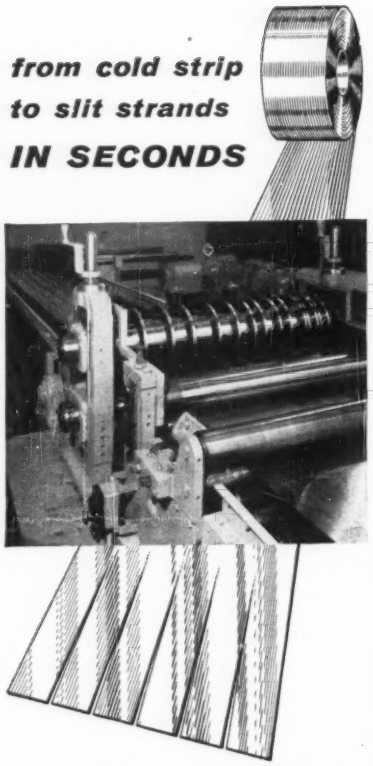

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Farm inventories declined about $300 million last year and should rise somewhat this year.)

The major reduction in inventories will occur in manufacturing, especially among makers of durables. Wholesalers do not need to pare inventory much at recent rate of sales. And at the retail level stocks are low relative to sales. The odds are that if retailers (except for auto dealers) are to serve their customers well, they must soon add to their holdings—a change in policy that easier credit should encourage. However, manufacturers' stocks are so high, relative to prospective sales (and those of auto dealers soon may be), that cuts in this area promise to outweigh any buildup in retail stocks, resulting in some net over-all decline. But heavier retail inventories should help both to hold the total dip to the modest dimensions indicated and to push the sales-inventory ratio toward a more satisfactory level by year-end.

Housing

Private nonfarm housing construction outlays, like those for other private buildings, are on the upgrade. After allowance for seasonal influences, value put in place rose again in November to a peak annual rate for the year. With seasonally adjusted starts having averaged over 1 million units per annum between June and November 1957 and with spending for major additions and al-

BUSINESS SIGNPOSTS

1939 Average	1947 Average	Selected WEEKLY Indicators†	Latest Week	Previous Week	Year Ago
102	163	STEEL INGOT PRODUCTION Ten Thousand Tons (a)	174	177	253
25	49	ELECTRIC POWER OUTPUT Ten Million KW Hours (b)	126	123	122
76	121	BITUMINOUS COAL MINED Hundred Thousand Tons (c)	89	91	107
69	92	AUTOMOBILE PRODUCTION Thousand Cars and Trucks (d)	171.3	162.1	182.4
35	98	DEPARTMENT STORE SALES Index 1947–1949 = 100 (e)	267	215	260
5	13	BANK CLEARINGS, 26 Cities Hundred Million Dollars (f)	250	217	257
284	67	BUSINESS FAILURES Number of Failures (f)	269	287	249

1939 Average	1947 Average	Selected MONTHLY Indicators‡	Latest Month	Previous Month	Year Ago
58	100	INDUSTRIAL PRODUCTION Index 1947–1949 = 100 (e)	139	141	146
58	95	NONFARM COMMODITY PRICES Index 1947–1949 = 100 (g)	125.7	125.8	124.2
37	100	FARM COMMODITY PRICES Index 1947–1949 = 100 (g)	91.9	91.5	87.9
59.4	95.5	CONSUMERS' PRICE INDEX Index 1947–1949 = 100 (g)	121.6	121.1	117.8
3.5	10.0	RETAIL SALES Billions of Dollars (h)	17.2	16.9	16.5
5.4	15.6	MANUFACTURERS' SALES Billions of Dollars (h)	29.4	28.2	30.3
45.8	58.0	EMPLOYMENT Millions of Persons (h)	64.9	66.0	65.3
72.9	190.5	PERSONAL INCOME Billions of Dollars, seasonally adjusted annual rate (h)	345.4	345.9	334.9
103	257	BUILDING PERMIT VALUES Millions of Dollars (f)	380.2	501.3	489.4

SOURCES: (a) Amer. Iron & Steel Inst.; (b) Edison Elect. Inst.; (c) U.S. Bureau of Mines; (d) *Automotive News;* (e) Federal Reserve Board; (f) DUN & BRADSTREET, INC.; (g) U.S. Bureau of Labor Statistics; (h) U.S. Department of Commerce. †WEEKLY INDICATORS: Bank clearings data for third week of December; all others for second week. ‡MONTHLY INDICATORS: Manufacturers' sales for October; all others for November.

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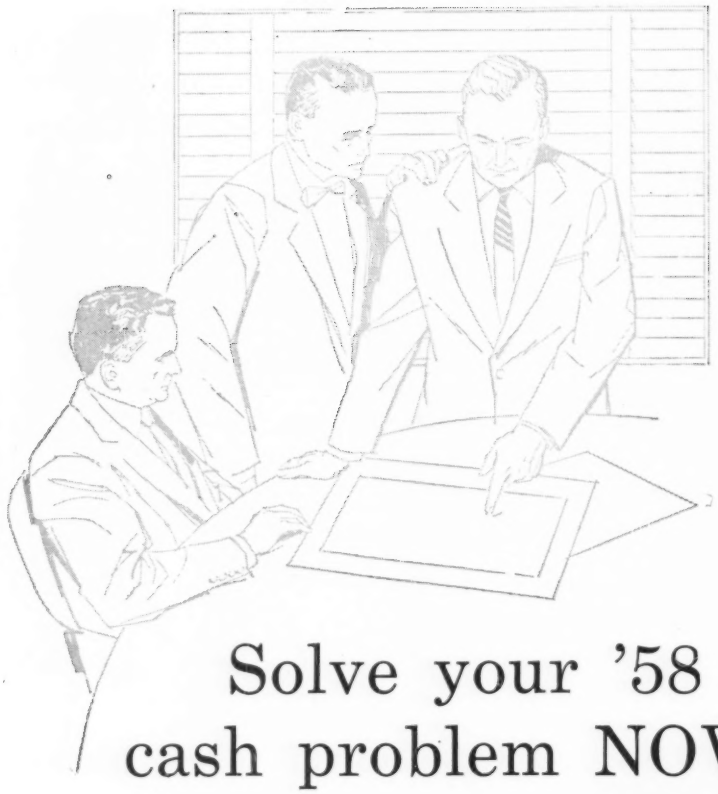

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terations moving ahead, the advance appears certain to continue for a while unless starts fall off. And there is evidence that the latter will rise further, at least into the Winter months. For example, contract awards for private and public projects, as reported by F. W. Dodge Corporation, were quite heavy in the period August to October 1957—up over the levels of August to October 1956 by about 5 per cent in number of units and more than 8 per cent in dollar volume. And on a seasonally adjusted basis, applications for Federal Housing Administration mortgage commitments appear to have risen in recent months.

Currently, the outlook is for further improvement beyond next Spring. Mortgage money will remain a limiting factor on any step-up. Even before the outlook for credit relaxation brightened, however, a larger supply of funds was in prospect as a result of growth in payments on outstanding mortgages, a decline in business need for external financing, and some increase in the kinds of personal savings available for home building. Moreover, easing of credit might lead indirectly to a further marginal addition to the flow.

All told, it appears reasonable to expect private nonfarm starts to total 1,060,000 for 1958 as a whole, against about 980,000 in 1957. Since starts will be advancing gradually during the year, value put in place will not rise in proportion. But it should run $900–$950 million above its 1957 level. Allowance for growth in outlays for additions, alterations, and so-called nonhousekeeping purposes would place the over-all gain somewhere between $1.3 and $1.4 billion.

Net foreign investment will be a deflationary factor this year. Already off from a peak of about $4 billion (seasonally adjusted annual rate) in the first quarter of 1957, it promises to decline to not much above $1 billion next Summer and hold close to that level in the Autumn. For the year, it should be almost $2 billion smaller than in 1957. Lessened basic need for some of our products (notably oil), coupled with the drain on foreign gold and dollar reserves in 1957, will reduce our export volume. An offsetting adjustment in our imports seems improbable. (The latter are unlikely to decline much, if at all. In any event, with their reserves low, our foreign customers would

have to adjust to a cut in our own purchases largely by reducing further their demand for American goods.)

Prices, jobs, profits

Long-pull inflationary pressure seems strong enough to insure higher prices this year than last, despite the lull in demand. At year-end, most major indexes stood above their 1957 averages. For some, temporary slide-offs, due partly to seasonal influences, are in prospect over the next twelve months, but the underlying trend should be upward. The index of implicit GNP deflators, which represents price movements weighted by GNP component proportions, should average 2 to 2.5 per cent above its 1957 level.

Employment, of course, will be down. With physical output off and output per man-hour rising, the number of hours of work available will diminish. A counterbalancing cut in the average work-week appears improbable. Since the civilian labor force is certain to increase, unemployment will rise more than proportionately. The seasonally adjusted annual rate, which has already risen from 3.9 per cent last April to 5.1 per cent last November, will probably be running around 7 per cent by late Spring. However, it is unlikely to go much, if at all, higher in the Summer and should begin to drop again next Autumn.

Finally, corporate earnings before taxes will again decline. But the dip should be moderate—probably between 6 and 7 per cent, in which case it would be only about two-thirds as large as that in 1953–1954. With a significant drop in windfall inventory profits in prospect, the drop in operating profits will probably be even less than the modest over-all decline forecast. (Producers therefore should not experience much trouble in financing their reduced investment program, especially since reduction in tax liability will off-set around half the decline in earnings and funds available from depreciation allowances will be larger.)

This is a report prepared in the Business Economics Department, Dun & Bradstreet, Inc., by Edwin B. George and Robert J. Landry.

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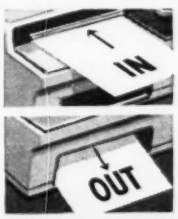

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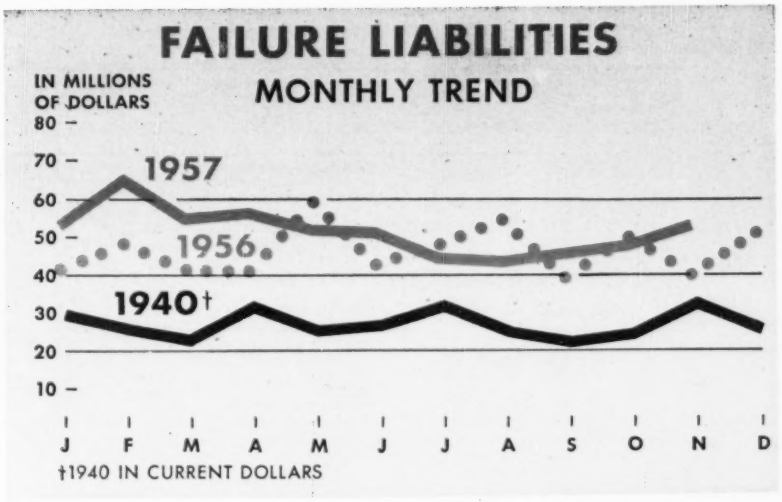


FAILURES: Total Hits Six-Month Peak

CLIMBING SLIGHTLY in November, business failures reached 1,173, the highest level in the last six months. Some 17 per cent more concerns succumbed than in the comparable month of last year, when 999 were recorded. In fact, casualties were heavier in only one other November (i.e., 1939) since 1933.

The increase appears less severe, however, in terms of the failure rate per 10,000 listed businesses. According to DUN'S FAILURE INDEX, which relates the number of failures to the total business population listed in the DUN & BRADSTREET *Reference Book*, the casualty rate rose to 56 per 10,000 in November from 52 in the previous month and 49 a year ago. But the rate remained well below the 1939–1940 level for November.

Dollar liabilities mounted 12 per cent to $52.9 million, the largest volume since April and one-third heavier than a year ago. Casualties of moderate-size concerns—in the $5,000 to $25,000 liabilities class—and those with liabilities in excess of $100,000 largely accounted for the month-to-month upswing.

Failures rose during November in all categories except manufacturing, but did not reach the high levels of the Spring months. Slight dips occurred in most manufacturing lines, but there was a marked upsurge to double the totals for the previous month in the machinery and leather industries. Nearly all the wholesaling increase was concentrated in the building materials and automotive trades. Fewer retail concerns succumbed than in October; the only noticeable month-to-month rise occurred among eating and drinking places. In construction, both general builders and heavy construction contractors suffered record high tolls. Cleaning and repair establishments accounted for the month's upturn in service casualties.

Manufacturers and wholesalers reported the sharpest rise, 28 per cent and 21 per cent, respectively, over November 1956. The only two exceptions to the general manufacturing uptrend from 1956 were the food

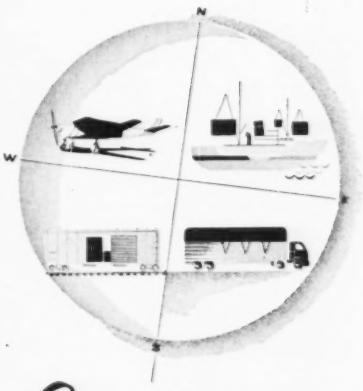
THE FAILURE RECORD

	Nov. 1957	Oct. 1957	Nov. 1956	Per Cent Change†
DUN'S FAILURE INDEX*				
Unadjusted	57.7	48.9	49.5	+17
Adjusted, seasonally	56.0	51.5	48.5	+15
NUMBER OF FAILURES	1173	1122	999	+17
NUMBER BY SIZE AND DEBT				
Under $5,000	160	176	152	+ 5
$5,000–$25,000	580	522	491	+18
$25,000–$100,000	335	334	282	+19
$100,000 and over	98	90	74	+32
NUMBER BY INDUSTRY GROUPS				
Manufacturing	213	214	166	+28
Wholesale Trade	114	99	94	+21
Retail Trade	559	544	482	+16
Construction	194	176	171	+13
Commercial Service	93	89	86	+ 8
LIABILITIES (in thousands)				
CURRENT	$52,899	$47,428	$39,886	+33
TOTAL	53,245	47,564	40,285	+32

*Apparent annual failures per 10,000 enterprises listed in the Dun & Bradstreet *Reference Book*.

†Per cent change, November 1957 from November 1956.

In this record, a "failure" occurs when a concern is involved in a court proceeding or in a voluntary action likely to end in loss to creditors. "Current liabilities" here include obligations held by banks, officers, affiliated and supply companies, or the governments; they do not include long-term publicly held obligations.



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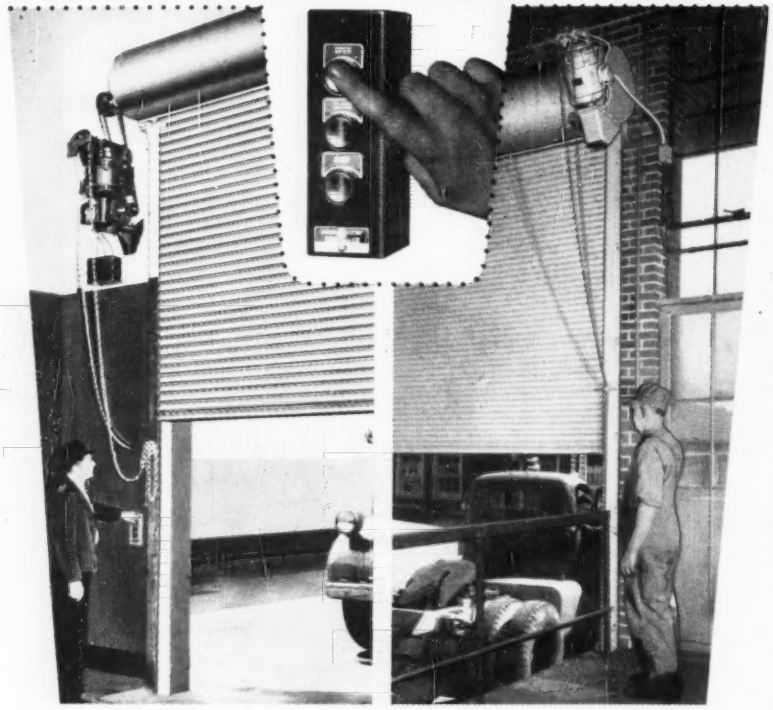

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FAILURES BY DIVISION OF INDUSTRY

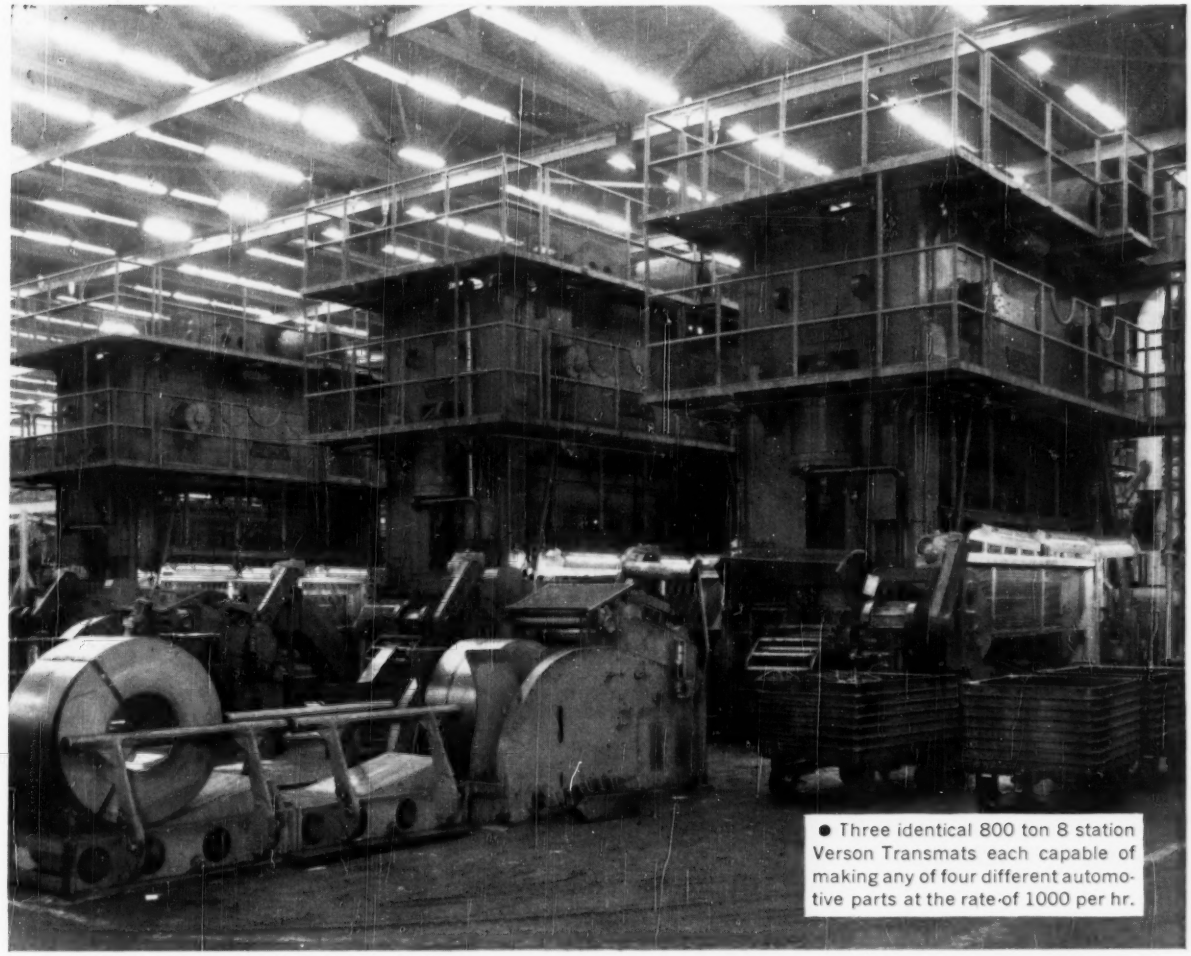
(Current liabilities in millions of dollars)	Number 11 Months 1957	1956	Liabilities 11 Months 1957	1956
MINING, MANUFACTURING..	2203	2113	181.9	169.4
Mining—Coal, Oil, Misc.	74	39	11.4	8.1
Food and Kindred Products	168	177	10.8	9.6
Textile Products, Apparel.	457	510	27.5	32.3
Lumber, Lumber Products	458	361	23.3	21.6
Paper, Printing, Publishing	127	113	9.4	7.3
Chemicals, Allied Products	54	57	5.4	12.3
Leather, Leather Products	65	75	6.5	4.5
Stone, Clay, Glass Products	52	32	2.9	4.7
Iron, Steel and Products..	104	126	27.2	11.5
Machinery	224	249	23.5	29.9
Transportation Equipment	66	53	7.2	4.5
Miscellaneous	354	321	26.8	23.2
WHOLESALE TRADE	1140	1135	72.4	69.1
Food and Farm Products.	262	277	17.2	12.1
Apparel	41	47	2.5	2.2
Dry Goods	30	45	1.1	1.5
Lumber, Bldg. Mats., Hdwre	132	141	7.9	17.6
Chemicals and Drugs	42	43	2.0	1.4
Motor Vehicles, Equipment	71	62	3.3	3.5
Miscellaneous	562	520	38.4	30.7
RETAIL TRADE	6381	5869	170.8	145.1
Food and Liquor	1007	1019	22.4	17.4
General Merchandise	251	257	10.9	8.8
Apparel and Accessories..	1060	1091	21.9	27.3
Furniture, Furnishings	934	732	34.9	24.7
Lumber, Bldg. Mats., Hdwre	438	351	12.8	10.3
Automotive Group	806	669	20.2	20.9
Eating, Drinking Places..	1173	1046	26.5	21.8
Drug Stores	152	153	3.6	3.2
Miscellaneous	560	551	17.7	10.8
CONSTRUCTION	1931	1651	104.6	92.7
General Bldg. Contractors	740	632	61.2	49.7
Building Subcontractors..	1075	931	34.3	38.1
Other Contractors	116	88	9.2	4.9
COMMERCIAL SERVICE	1004	936	40.3	36.1
TOTAL UNITED STATES	12,659	11,704	570.0	512.4

Liabilities are rounded to the nearest million; they do not necessarily add up to totals.

and the iron and steel industries. Likewise, only two declines were noted in retail trades—food and general merchandise stores. Casualties climbed some 84 per cent from the year before among building materials dealers and rose 53 per cent among restaurants.

Regional trends were mixed. While November failures increased over October in the South Atlantic, East North Central, West North Central, and Pacific States, four regions reported mild dips, and the Mountain States had no change. Totals in nonmetropolitan areas advanced 11 per cent, but were balanced against a decline of 8 per cent in 25 of the largest cities. The geographic trend from 1956 was more clear-cut, with rising business mortality in six of the nine regions and in both city and country areas. In the West South Central States, half again as many businesses failed as in the previous November, the New England casualties bulked a third larger, and the Pacific total was a fifth above 1957.

This report was prepared in the Business Economics Department, DUN & BRADSTREET, INC., by Rowena Wyant.



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WHAT'S AHEAD FOR AMERICAN INDUSTRY . . .

. . . a topside view of 1958 and beyond

KENNETH HENRY, *Executive Methods Editor*

OF ALL THE business arts, forecasting may be the most vulnerable. Professional economic prophets sometimes cynically point out that even a coin-tosser can guess right half the time. Most business men agree that forecasts coming from influential sources may become a form of cloud seeding that will alter the economic weather. And, as recent events have dramatized, the U.S. economy reacts quickly and sensitively to sputniks and Presidential illnesses. Yet forecasting, for all its uncertainties, is a must in long-range business planning, whether it is casual or formalized—or both.

What do America's top industrial leaders foresee for 1958 and after? Despite a temperamental stock market and growing international tensions, few of them are alarmed about what the next twelve months will bring for the economy, and most of them are privately confident about prospects for their own companies in the coming year. In fact, judging from the reactions of DR&MI's Presidents' Panel to a brand-new survey on business prospects for 1958 and beyond, confidence is almost as high today in the executive suites of U.S. industry as it was at the start of 1957.

The 109 company presidents who make up the Panel were asked, specifically, how their feelings about 1958 compared with their feelings about 1957 a year before. Replying, 25 per cent said they are just as confident this year as they were last, 19 per cent are more optimistic, and 42 per cent are mildly pessimistic. A tenth of the group, who think the economy might either contract or expand slightly in 1958, would not go on record with an unqualified prediction.

But unanimous long-range confidence outweighs any shorter-range doubts in the minds of Panel members. Their conservative projections of the gains they expect for their own companies within the next five years are startling—by 1962, profits up over present levels by an average 58 per cent, sales up 34 per cent, invested capital increased by 27 per cent, and 15 per cent more employees on the payrolls. Of course, these weighted averages, based on figures named by four-fifths of the Panel, cover a wide range of projections—from a five-year profit increase of ¼ of 1 per cent anticipated by one company to increases of 100 per cent or more expected by one out of eight companies. (For more details, see box on page 95.)

Few of the Panel presidents expect really radical changes in the 1958 business picture. From those who feel more hopeful this year come such comments as, "Opportunity still here, but will take better planning and operating to increase profits." One president asserts, "The outlook for 1958 is bright because we expect delivery of new products to add significantly to our revenue and profits." Says another, "We expect sales to increase about 5 per cent. Profitwise, the outlook for 1958 is more favorable than at the corresponding time last year because industry carryover into 1958 should be in better balance with demand."

As might be expected, presidential sentiments about the coming year reflect to some extent what their companies make or do. Among the 109 companies on the Panel—95 per cent of them industrials—the heavy industrial concerns, such as steel producers, are slightly more bearish than food manufacturers, who expect business to rise gradually with the

population, and defense-oriented companies, which expect to benefit from increased military spending.

Two men out of five think 1958 looks less promising than 1957 did a year ago. They are apt to see the coming year in such terms as "tough struggle; hold our own, but very little growth."

More than one company was affected by last year's construction decline. One president reports: "Our business is primarily dependent upon construction, both new and modernization. A year ago we didn't believe that the pinch on residential construction would continue to be as severe. This rather naturally led us to underestimate the competitive situation and its effect on prices and profits. We now believe that 1958 will by and large be 'more of the same.' While we were cautiously optimistic a year ago about 1957, we are now of the opinion that there will be no further deterioration of the situation in 1958."

"The outlook is less favorable," says another man, who seems typical of the less optimistic presidents. "Because of rising costs and intense competition, which precludes the complete recovery of those costs via higher sales prices, profit margins have been narrowed. Too, the boom which was so evident two years ago has ground to a halt, or at least its forward progress has been impeded."

Other Views of 1958

One out of every four Panel presidents feels "the same" about 1958 as he did a year ago about 1957. This, of course, can mean any one of several things. Some of these men were looking a year ago for 5 to 10 per cent sales gain; others, for a possible 5 per cent drop in business. Many say they "feel the same—*good*." To one man, *same* means "only a small increase in sales and profits—and extremely hard to get." *Same* for another president means: "1958 should be as good a year for our business. Our products are low-priced, consumer food products. Population growing."

A few panelists—about one in ten—express mixed feelings or uncertainty about 1958 as compared with 1957. Typical of this group, many of whom are thinking of their own special industry problems, are such comments as, "Feel there is more need for caution in 1958 than 1957,

1958: Profits, Output, Threats to Prosperity

Presidents of Panel companies—representing, collectively, $27 billion in total assets, annual net sales topping $32 billion, and more than 1.7 million employees—are more optimistic about their own companies in 1958 than they are about the economy as a whole. Here are their profit and output expectations for the coming year, along with their views on the biggest threats to industrial prosperity in 1958:

PROFITS—More than half the Panel—53 per cent—expect to make a better profit showing in 1958 compared to last year. Twenty-three per cent expect profits to be about the same; 22 per cent, lower; and 2 per cent don't know.

The presidents who look for better profits this year base their expectations chiefly on cutting operating costs and marketing new products. Nearly a third of the men expecting better profits in 1958 mention cost control; another fifth, new products. Others are counting on consumer spending, acquisition, a growing population, and foreign trade.

The less optimistic men are also cost-conscious. One comments, "The wage spiral will apparently continue and the highly competitive nature of our business will make offsetting price increases virtually impossible. We must rely upon lower-cost product design, lower-cost manufacturing methods, and continued expense-control efforts as our principal hope for profit improvement in 1958."

OUTPUT—Nearly three-fifths of the panelists expect their 1958 output to exceed last year's output by anywhere from 2 to 15 per cent, with an average of 8.6 per cent. Almost a fourth of the presidents, however, expect lower output—decreases ranging from 1 to 30 per cent, and averaging out to a drop of 12.1 per cent. Somewhat under one-fifth of the group expect output this year to equal last year's. Here is a summary of these expectations:

- 58 per cent of the panelists expect output to rise an average 8.6 per cent, ranging from gains of 2 to 15 per cent. Median output gain expected: 10 per cent.
- 23 per cent of the panelists expect output to decline an average 12.1 per cent, ranging from drops of 1 to 30 per cent. Median output dip expected: 10 per cent.
- 17 per cent of the panelists expect output to remain the same.
- 2 per cent of the panelists give no figures.

Several panelists point out that, although output may drop, dollar sales volume in 1958 is expected to compare favorably with 1957's.

CHIEF THREATS TO INDUSTRIAL PROSPERITY IN 1958—One thing worries the Panel more than anything else in 1958: loss of confidence by business men and, equally important, by consumers. One man comments, "Jitters on the part of the public and the business man caused by international tensions, defense spending problems, and high government budgets, which may cause hesitation in spending at all levels." A number of men attribute the climate of pessimism to the stock market's recent violent swings, some to tight money, and some to inflation, overexpansion, and burgeoning inventories.

The big No. 2 problem this year, according to the Panel, will be inflation, especially its effect on costs and on already hairline profit margins. Many presidents speak specifically of cost—or wage-inflation, unmatched by a corresponding rise in productivity. In fact, this worry is the one mentioned most often by the men who name unions as the No. 3 threat to industrial prosperity in 1958.

World tensions, taxes, tight money, credit, strikes, government politics and policies (especially the uncertainty of where, how, and when defense spending will be stepped up) are also mentioned by the panelists as significant influences on prosperity in the coming year.

AMONG THE DR&MI PANEL MEMBERS ARE THE PRESIDENTS WHOSE PICTURES APPEAR BELOW AND ON THE FACING PAGE. A COMPLETE LIST WILL BE FOUND ON PAGE 98.

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DAVID PACKARD
Hewlett-Packard Co.

GEORGE S. DIVELY
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EDMOND H. LEAVEY
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JOHN E. BASSILL
American Enka Corporation

for most factors point to an increasing squeeze on profits and a highly competitive situation, but we believe it will be a good year for our company." Or, "Our earnings in 1958 should be higher, given the same economic conditions as existed in 1957. However, it is hard to say at this juncture how serious and how far down the present recessionary trend will go." In the words of one man, 1958 will be a year of "continued growth at a less vigorous rate."

Summing up the mixed feelings of many panelists, one president gives a more extended analysis:

"Opinion is that the current nationwide plateau of total business will extend into 1958, perhaps with a moderate downward trend in civilian business during the first part of the year. It is expected that with the recent developments in the military field, the level of this business will remain about the same or slightly increase. I agree with most economists that a resumption of the long-term growth will be deferred until 1959, but this uptrend will be slow when it starts.

"Our business is vitally affected by what is happening in construction, heavy industries, and government spending, as well as in consumer buying patterns. There will probably be no increase in physical volume of construction next year; but there will, undoubtedly, be a slight rise in costs. Heavy industries, such as industrial equipment, machine tools, and industrial construction, are expected to fall off. However, public building and highway spending should show moderate gains. Personal consumption of durable goods was down in 1957 with nondurables up, a situation that will probably prevail next year. These conditions may well hold our business at close to current levels, and we must depend on the introduction of new products for increased volume."

(For 1958 output and profit expectations, as well as views on what Panel presidents consider the most serious threat to industrial prosperity in 1958, see box on page 33.)

Long-Range Plans

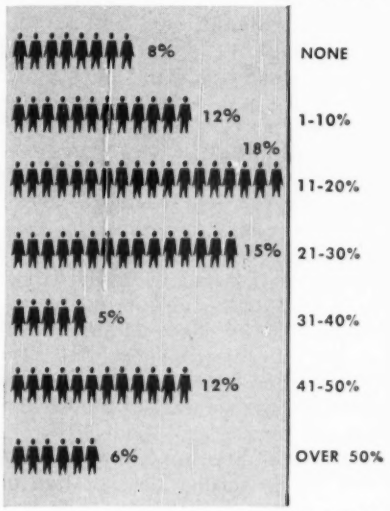
For long-range company planning, five years is probably the closest thing to an accepted time-span. As H. Edward Wrapp of the Harvard Business School has said, "A shorter period hews too closely to operating problems and discourages the consideration of planning problems, whereas a longer period becomes too nebulous."

More than four-fifths of the Panel presidents report that their companies carry on formal long-range planning, and 53 per cent of the Panel say they have specific plans at least through 1962. "We have several alternative plans for these years," says one president, who points out the difficulty of planning "specifically with demand in a state of flux." Another man mentions five-year plans "in areas of financial resources and needs, market development, facilities expansion, and personnel and management requirements." Many of the long-range planners mention "continuous" or annual revision of these plans.

On the other hand, close to one-fifth of the Panel say they have no specific plans, only "a general pattern of growth in mind." One president in ten reports specific plans through 1959, 1960, or 1961, and one in twelve says his company has just begun to work up formal five-year plans. A few men feel that a five-year plan is "too volatile."

Whether their long-range plans

1962 OUTLOOK FOR NEW PRODUCTS



Of the remaining 24 per cent of the Panel, 16 per cent gave no specific estimate and 8 per cent declined to answer.

are carefully organized or general, more than half of the companies on the Panel expect to grow faster than the U.S. economy as a whole, and more than a third expect to grow at the same rate or faster. Actually, these findings are not surprising: business men have traditionally been considerably more bullish about future prospects for their companies than for their industries or for the national economy. But most of the panelists seem to have solid grounds for their optimism. Those who expect to grow faster are counting on expansion, diversification, and new product lines, or, in some cases, on being in the right business at the right time. Here are some typical comments: "Since we are largely in electronics, we should grow a little faster than the economy as a whole if we continue to emphasize research." "Because new lines we have entered have great potentials, our growth should be greater than average." "Our present plants should grow about the same as the economy, but we are increasing our market penetration by acquiring additional plants." (For details, see chart below.)

Things to Come

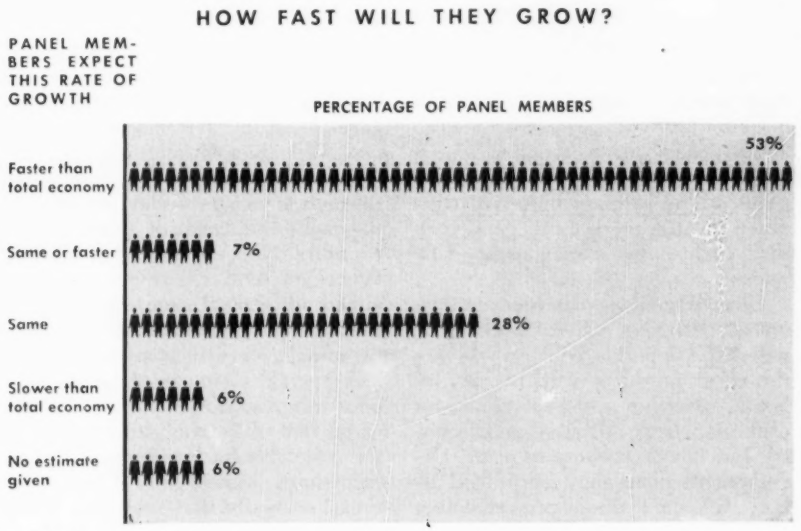
While not all of the Panel presidents are in growth industries, exactly half expect that from 5 to 40 per cent of their companies' 1962 output will consist of new products or services, and almost another fifth of the group expect new products and services to alter the present mix by 41 to 85 per cent in the next five years (see chart on opposite page).

Not every company, of course, can bank on new products for growth. Some must base their growth on "new uses rather than new products." Nor are the all-important results of research precisely calculable. Says one man, "Any estimate is difficult, since the rate of technological obsolescence depends upon research results, which cannot be predicted." Another company president reports, "Recently, we organized a Research and Development Department to produce new products, to perform experimental work, and to carry on engineering design activities. The initial response to this venture has been encouraging. We anticipate that, over the next several years, this department will contribute an ever-increasing percentage of our total volume of business."

Economist Eliot Janeway recently asserted that the U. S. economy has switched from an automotive to an aeronautics business cycle—and that the lead time, before investment and technology pay off, has lengthened from three years to seven years. Janeway defines aeronautics as including related electronics, instrumentation, atomics, and missiles industries. Defense expenditures, stepped up and redirected to meet the Soviet technological threat, will strengthen and accelerate this aeronautics cycle.

Although only about a third of the Panel companies now do a significant amount of government contract work, many more will doubtless feel the impact of the new technology

continued on page 94



W. F. ROCKWELL, JR.
Rockwell Manufacturing Co.

E. J. THOMAS
The Goodyear Tire & Rubber Co.

MILTON P. HIGGINS
Norton Co.

ERNEST HART
Food Machinery & Chemical Corporation

LOUIS M. HAGUE
Hanson-Van Winkle-Munning Co.

FRED R. SULLIVAN
Monroe Calculating Machine Co.

HENRY S. BEERS
Aetna Life Insurance Co.

R. C. BECHERER
Link-Belt Co.

EUGENE N. BEESLEY
Eli Lilly & Co.

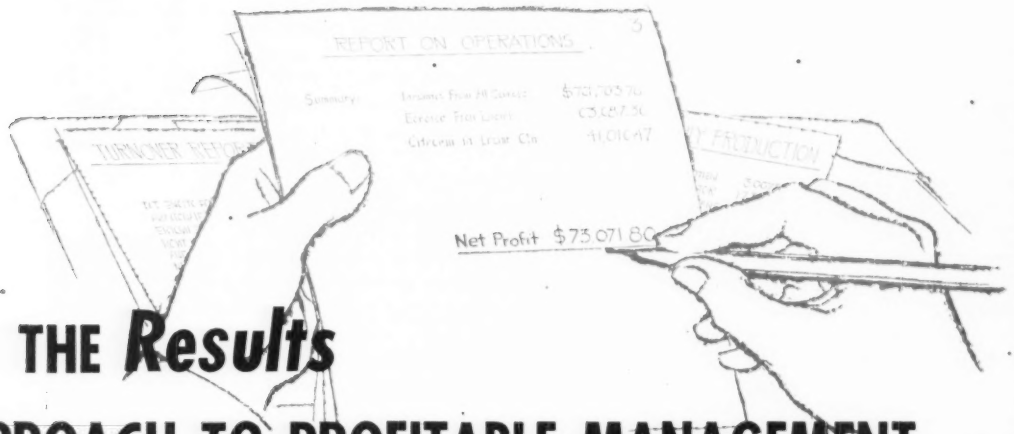
RUPERT C. THOMPSON, JR.
Textron, Inc.

JUSTIN DART
Rexall Drug Co.

A. S. GLOSSBRENNER
The Youngstown Sheet & Tube Co.

A. KING McCORD
Westinghouse Air Brake Co.

WALTER K. BAILEY
The Warner & Swasey Co.



THE *Results* APPROACH TO PROFITABLE MANAGEMENT

EDWARD C. SCHLEH

When staff activities proliferate and profits sag, management can often get amazingly fast corrective action by asking a few highly specific questions—questions so basic that nine times out of ten they're completely overlooked.

TECHNICAL advances undreamed of a generation ago have reshaped the face of U.S. business during the past twenty years. Yet, almost unrecognized while it was taking place, an even more important change has occurred—a discovery unrelated to the wonders of jet propulsion, electronics, or nuclear energy. It can be summed up very simply: American industry has discovered its employees. It has learned that people literally *are* the most important asset of any company. And it has begun to realize just how much of its valuable human potential still remains untapped.

The discovery has come by stages, and a number of developments have contributed to pushing it ahead. Labor market pressures have put the spotlight on recruitment, training, and wage costs. Union growth has strengthened the bargaining power of the worker and created a new communications challenge for management. The increased size and complexity of business units have brought the problems of organization, motivation, and control into sharper focus than ever before.

Yet management has succeeded only partially, at best, in its efforts to end the costly waste of its human assets. Often, the very programs that are designed to help employees realize their full potential may actually be making matters worse.

Misplaced Emphasis?

All too often, these programs have been based on the theme, "Is everybody happy?" Management tends to adopt salary plans, employee relations programs, and communication plans whose primary objectives boil down to little more than "good feeling." Is this what management really wants?

Or management may focus mainly on encouraging activity and effort, with little apparent concern whether the effort produces valuable results. Some executive appraisal plans, for example, stress initiative and industry but ignore accomplishment. Development plans may be judged by how well the trainees can remember what they have learned in the classroom, not by subsequent improvement in on-the-job performance. Employment offices may carry on a large volume of interviewing and testing but neglect statistical validation and follow-up on the performance of new hires.

Or, if the programs do focus on objectives, those objectives may not be the most important ones for the company. For example: Compensation plans may not encourage balanced results. Training programs may be dealing with peripheral problems. Group action and participation through committees may be detracting from the sense of personal accountability each man should feel. Where activities are not clearly aimed at central company targets, the work of one person or group may be actually negating that of another.

A special example of what happens when management loses sight of its real objectives can be seen in the collective bargaining area. Some companies want "good labor relations" so badly that they will go to

almost any lengths to satisfy the union. Frequently concessions are made and clauses put into contracts simply to settle the negotiations. Meanwhile, little or no thought may have been given to the practical realities of what it takes to run the plant well. The resulting agreement may obstruct the management machinery or even force the company to change course, against its own best interests. Group seniority plans that hinder efficient operation, job evaluation plans that ignore individual accomplishment, contract clauses that specify joint agreement on each work standard without setting up a basis for the standard—any of these may be an attempt to avoid immediate difficulties. In the long run, however, they probably do more to perpetuate trouble than to eliminate it.

Finally, if the company is stable and prosperous, the policies may simply encourage everyone to maintain the status quo. Some types of pension plans, for example, tend to promote stagnation. Frequently they provide long periods before vesting in order to put hooks on people and hold turnover down. But the hooks may be most effective with the nonproducer. In other cases they may tend to discourage rather than encourage real drive, innovation, and ingenuity by adding to the sense of frustration that arises from inability to control one's own destiny. Length-of-service salary increase plans and employee promotion plans based on seniority do nothing to push improvement. Sales training that stresses product knowledge at the expense of selling techniques may foster mediocrity.

Exalting the status quo can only result in a static company, which will find out too late that competition is running rings around it.

The "results" approach described in this article has been developed as a management answer to these problems. It is being effectively applied in a growing number of industries.

Applying "Results" Thinking

Where can an executive start in developing an employee program that will lead to real accomplishment for his company and to the fullest development of his people? He can't just say it should be done and expect it to happen automatically.

Basically he should apply "results" thinking. This means beginning with company objectives. He should ask himself, "What is our company in business for? What are we trying to accomplish?" He should examine every company activity in the light of those questions. Ultimately the expected contribution of each employee to the company objectives should be clearly specified and just as clearly understood by the employee himself.

Obviously, every supervisor at every level must first know what results are expected of him. Then, he can decide what results he expects from people under him. Job descriptions should reflect this basic approach (see below), not merely list the duties of the jobs, as most descriptions do today. (Incidentally, undue attention has often been given to fine writing in job descriptions, but the "results" value of the job has been ignored. As Montaigne said, "Some men are so stupid they would go a mile out of their way to chase after a fine word.")

THE AUTHOR • Edward C. Schleh, whose background includes eight years of management research at Minnesota Mining & Manufacturing Company, now heads his own management consulting firm, Schleh Associates, Inc., in Minneapolis. In addition to many published articles on management subjects, he is author of *Successful Executive Action* (Prentice-Hall, 1955), now in its fifth printing. Mr. Schleh is also active in international management circles, and recently served as a U.S. Delegate to the 11th International Management Congress, held in Paris under the auspices of the Council for Progress in International Management.

Responsibility for All

The basic objective should be to establish real accountability for results on the part of every one in the organization. There should, in a sense, be a direct line of responsibility from each employee to some portion of the results reflected in the profit and loss statement. In developing this accountability, the company should consider results first, and the cost of achieving them second.

The organization structure should be reviewed to determine whether or not it facilitates the achievement of the results management really wants. Organization charts, so often overemphasized, are of minor importance here. Pay systems should encourage results and not put too much weight on such things as area comparisons, degree of overlap between ranges, and the background of the employee. Benefit programs should be reviewed to see what, if anything, they contribute for the money spent. Training programs should not be permitted unless they contribute to improvement in company operation. The standard for the employment department should be the average productivity of new hires. Each employee program, in fact, should have an objective based on the answer to the question, "Why are we in business?"

continued on page 52

THE "RESULTS" APPROACH APPLIED TO JOB DESCRIPTION

Left, some excerpts from conventional job descriptions. Right, new versions keyed to results.

TRADITIONAL "ACTIVITY" APPROACH	"RESULTS" APPROACH
Responsible for supervising and coordinating all company sales functions	Increases the net sales profit of the company to $..... within the current fiscal year
Responsible for supervising and directing all plant production departments	Reduces production unit cost by .....per cent
Responsible for conducting company research activities and supervises research projects for new or improved products	Develops new products that produce $..... net sales profit per year
Carries out company credit policies and supervises collection of all amounts due company	Keeps company credit costs (including collection costs and credit losses) to .....per cent of sales without loss of customer good will

Executives at Ohio Oil—which operates one of the largest private fleets—plan their flight as . . .

MANAGEMENT TAKES TO THE AIR

Big changes are taking place in the way management moves people from here to there in a hurry.

THOMAS KENNY, *Marketing Editor*

AS THE TEMPO of business quickens, many executives wish they could break the law of physics that insists a body cannot be in two places at the same time.

To help them keep on top of the job, management people are turning increasingly to company planes. As a result, according to Under Secretary of Commerce Louis S. Rothschild, "Business flying is the fastest-growing segment of our fastest-growing form of transportation."

Back in 1935 there were only four multi-engine company planes in the U.S. Today business planes number 26,000. Collectively, they're probably the largest air fleet in the world. (Commercial airlines operate only about 1300 planes on scheduled domestic runs.) Even in terms of multi-engine planes, the business fleet at 4,000 is a giant. And in addition to full-time business planes, 35,000 miscellaneous craft (which are used for charter, sport-flying, agriculture, training, and so on) spend part of their time flying business men. Since 1946 hours flown by business planes have risen fivefold. And in terms of actual hours flown, the business fleet is about 25 per cent ahead of the commercial airlines – which, of course, are used much more intensively.

Along with the numerical increase there has been a sweeping change in recent decades in business attitudes toward company planes. Twenty years ago, a Keene, N.H., contractor was considered eccentric by his banker for flying his own plane. Last Fall the same banker invited the contractor to come along on a vacation trip to North Carolina and asked hopefully whether the contractor would like to fly the two of them down.

Sales of civilian aircraft in 1956—excluding commercial airlines—were up 52 per cent over the previous year, and there's every indication that the climb continued just as sharply through 1957. Business planes are certainly the largest segment of the total.

One big reason for the astounding increase in business flying has been a physical one; industry has both decentralized its operations and dispersed its plants in the dozen years since World War II. Many top executives recall unhappily the travel hardships of the war years, when they were "bumped" with monotonous regularity by military personnel and Government VIP's. The thousands of surplus planes available for a fraction of their cost at the end of the war gave a strong economic boost to corporate flying. Of the 6,000 airports in the nation only about 550 are serviced by the scheduled airlines. Traffic congestion and delays in using these 550 airports have stimulated

many executives to turn to craft that can take off and land in small fields much closer to either headquarters or outlying plants.

Rather than being a competitor of the commercial airlines, the company plane is something of an ally. A survey by the National Business Aircraft Association indicates that the purchase of a company plane is almost invariably followed by increased use of commercial airlines by company personnel. In some cases, this may be due to an increase in air-mindedness in the company. More commonly it results from the fact that many companies restrict their own aircraft to short flights and use them as feeder lines to reach the commercial airlines. On really long flights even the fastest present-day company plane cannot keep up with the regular airlines.

More and more, company planes are being used to cut through the time-consuming ground travel that follows every trip on an airline. Says Robert C. Sprague, Jr., of Sprague Electric Company, "Our company planes have been an outstanding timesaver in providing us with quick feeder service from North Adams, Mass., to principal transportation centers. We reach any of New York's three airports within an hour and Boston in less time. This brings us as close to airports as most suburban commuters. Also, executives can put in a full day at these cities and still be home in time for dinner. We've found the planes extremely useful, too, in providing quick transport between the home office and our several New England manufacturing plants."

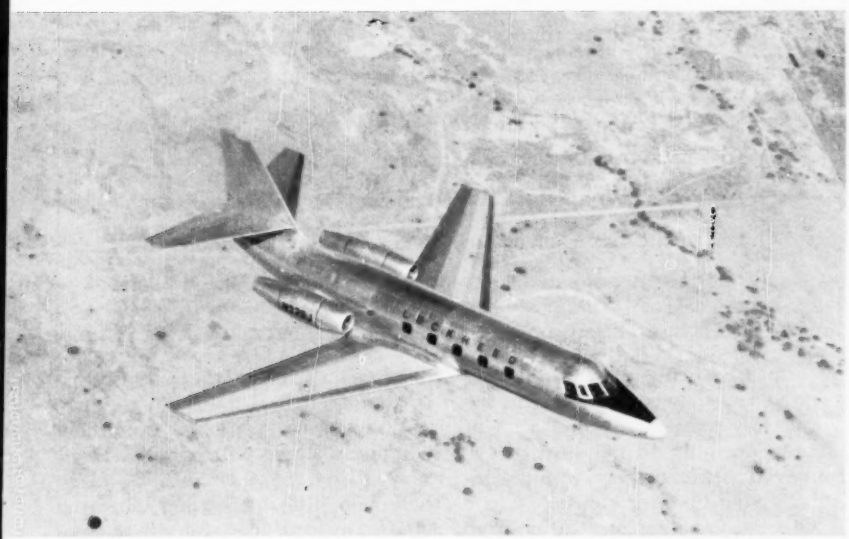
Why does a company buy a plane, or a fleet of planes? In addition to the obvious virtues of shrinking space and trimming time, planes facilitate face-to-face contacts. Some companies – certainly the minority – use planes in part for their public relations or promotional value. In some lines they are looked upon as the hallmark of the progressive company. Others use them of necessity: a concern selling aviation maintenance equipment would certainly not think of sending a representative to call on a prospect by car.

In some industries—particularly industrial equipment, where technically trained sales representatives are in short supply—planes are vitally needed to cover the territory quickly and get the salesmen home to their families.

There are instances, admittedly rare, where a handful of suppliers providing a basic raw material may go to extreme competitive lengths to keep customers happy. Here, a company plane can be quite a help. According to one plane manufacturer, providing a plane to a big customer to get him to, say, the Oklahoma-Notre Dame football game can do a lot for his morale. In industries producing heavy, expensive equipment, planes are important as a means of bringing together the potential buyer and the successful installation—something that salesmen's visuals, spiels, and testimonials cannot quite accomplish.

Probably the most common everyday use of planes is to get important people—top level, middle management, and technical—to trouble spots before the trouble becomes a disaster.

Besides saving executives' time and energy, company planes are helping management reach decisions faster and gain an edge on competition. Increasingly, companies are discovering that one of the best ways to stay ahead of competition is to improve service—and the company plane is a versatile and efficient way to do it. Flying salesmen are covering larger territories and getting home to their families more frequently than they ever did before.



Coming: jet-propelled business planes. Here, Lockheed test flies its Jetstar ten-passenger transport, which will cruise at over 500 mph. Other makers also plan jets or turboprops.

Who Flies?

Because air travel is less time-consuming and tiring (work can be done en route) the company plane encourages more trips by the top brass. More and more top executive work is being done in the air—not just reading reports, but even holding conferences aloft, where executives are permitted to fly together.

Planes are used today to fly not only top brass but sales and service people, technical specialists, and dealers and distributors. This is one of the most pivotal changes in the use of corporate craft in the past few years. Some companies still keep their planes for top echelon use exclusively and let them sit about uselessly on the ground the rest of the time, but these are fast-dwindling minority.

The swing to broader usage is a swift one. Says Gerard J. Eger, secretary of International Harvester: "Our executive group is perhaps the smallest users of company aircraft and our engineering and sales personnel group is probably the largest."

Do company planes really pay off as a rule? In a recent survey conducted among more than 100 owners of light, twin-engine craft, 55 per cent said that their company's operations had expanded as a direct result of using the plane, and 91 per cent said they considered their planes "a necessity."

In fact, private planes are becom-

ing virtually indispensable to a growing number of concerns. They're especially vital to operations in companies that:

- Sell over wide areas of the South, Midwest, and Southwest
- Sell to industry
- Lean heavily on service as an element of their sales appeal
- Need a steadily growing market to offset rising production costs.

While most company flying is done over the wide open spaces of the U.S., some planes are actually flown across the Atlantic on business trips. For example, President E. H. Darby of Southern Sash Sales and Supply Co., Sheffield, Ala., recently flew his twin-engine Aero Commander to Europe and made stops with distributors in fifteen European capitals. Such trips are unusual, but they are not unique.

Service for private craft in Europe, where they are much less common than in the U.S., may leave something to be desired. One flying executive discovered that while he got a pleasant reception, the needs of his plane received far less attention. Observing the way military aircraft and airliners were quickly serviced, he designed uniforms for himself and his pilot for his next European jaunt. It actually worked: he got quicker service almost everywhere.

Growing Wings

Manufacturers are making it increasingly easy for executives to become airborne. One example: For buyers of its smaller craft—primarily small business men—Piper and Cessna offer learn-while-you-fly programs so customers can make use of their planes from the minute they take ownership. A pilot instructor goes along on each business trip and teaches as he chauffeurs the executive.

Several of the business plane manufacturers encourage such arrangements as retainership. For example, at the Newport, R.I., airport an independent operator provides (and maintains) for fourteen companies three light twins, which he makes available at almost a moment's notice. This retainer arrangement is one of the fastest-growing developments in the field.

Hertz System now provides light planes to business on a rental basis. And charter flights by business are commoner than ever before.

Another reason why leasing arrangements are growing is the understandable reluctance of some companies to ruffle the feathers of their stockholders. Because stockholders sometimes have wildly exaggerated notions of the cost and upkeep of private planes, management often tends to be close-mouthed about them. This, of course, is shortsighted—especially since the facts on the operating costs of the company plane can usually prove beyond a doubt its worth as a cost-cutter and profit-strengthener. As for the company plane's being a luxury, one recent survey showed that even in the admittedly unlikely event of a major depression, only 10 per cent of the surveyed plane owners would consider giving up their ships.

Other companies shy away from publicity about their planes for other reasons. For instance, a large equipment producer prefers to keep his planes under wraps because, as he puts it, "the loss of an aircraft or extensive damage to one could create a bad publicity situation. The company might lose much of the confidence of its shareholders and general public."

A good many companies take just the opposite tack and exploit the publicity value of the company plane as a symbol of progressive, up-to-date management. This is particularly true of many small- and medium-sized companies in the Midwest and Southwest, where markets are sprawling and management needs wings to cover them.

The reluctance of companies to take the wraps off their company planes is demonstrated by the response of users of planes to a special DR&MI survey. All the surveyed companies were members of the National Business Aircraft Association—thus, presumably, companies interested in bettering business flying. Nevertheless, of the 43 respondents, ten thought any publicity about their planes would do their companies a disservice. Sixteen others refused to be identified by name.

How does a company determine whether a plane will pay off? Decisions to purchase aircraft are often based on little more than educated guesses as to their usefulness. A competitor's purchase of a plane, or delays in getting to and through the local airport, may impel the purchase.

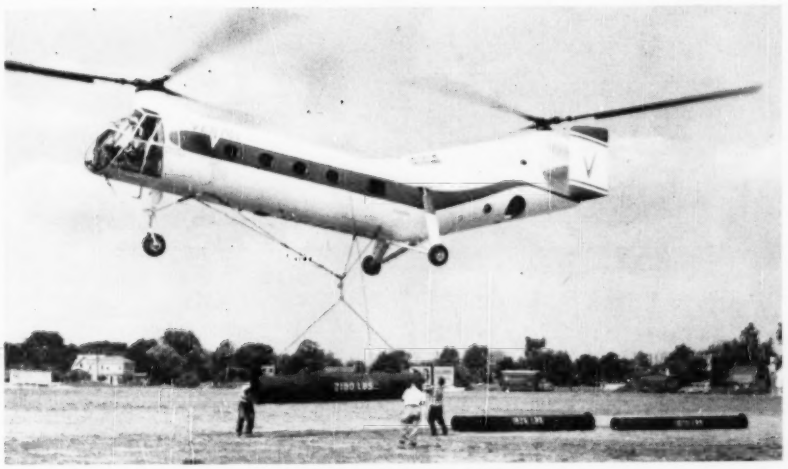
However, some companies, which look upon the company plane as a profit-producing tool, approach the buying decision as carefully as they would the purchase of a new punch press. They carefully plot out how the plane is to be used and exactly how it will pay off.

For instance, here are the steps involved in the time-travel analysis (a sales approach developed and used by Aero Design and Engineering Company, maker of the Aero Commander) that convinced P. R.

HOW PLANES CAN PAY OFF

Here are some of the ways companies are using their planes. Have you considered these possibilities for your company?

- ☐ For emergency freight shipments
- ☐ For engineering liaison among plants
- ☐ To provide round-the-clock service to customers
- ☐ As a feeder airline for executives
- ☐ To bring customers to the plant to inspect company operations
- ☐ To entertain important customers and prospects on trips
- ☐ To expand territorial coverage without adding to the sales force
- ☐ To enable the present sales force to make more sales calls
- ☐ To provide top management attention for prime accounts
- ☐ To strengthen top management control of decentralized plants



How to lay pipe from the air is demonstrated by a Vertol helicopter which can lift more than two tons. The company is also offering the model with lavish interiors for business flights.

Mallory & Co., an Indianapolis components concern, that a plane would produce profits:

1. Top management placed an approximate value on executive time. The figure was set at $25 an hour.

2. On the basis of a full year's experience, the company worked up the cost per mile of management trips in commercial transportation. This included ticket costs, elapsed time, the number of executives travelling together on trips, and the mileage covered.

3. Then a similar travel pattern for a company plane was worked out. This revealed a hypothetical, yet reasonable, figure for elapsed time and encompassed cost-per-mile data.

4. Finally, the company arrived at the figure for executive hours that could have been saved by using a plane during the year the transportation pattern was analyzed.

In detail, here's how the research panned out:

- Commercial (air, rail, auto) travel costs in one year came to $21,713. To cover the same ground in a company plane would have resulted in travel costs of $52,682.
- But the savings came in executive time. One year of travel in commercial carriers had eaten up 3,969 hours, while only 1,716 hours would have been consumed by using a company plane to cover the same mileage. Thus, a private plane would have saved $56,325 – more than enough to offset the higher direct transportation costs—resulting in an over-all "profit" on the plane of $25,356, a return of about 50 per cent on the investment.

Of course, this computation didn't include such intangible benefits of plane ownership as flexibility in planning travel schedules, the public relations value of plane ownership, and other incidental advantages, which may count heavily in individual company cases.

How Safe is Private Flying?

Many users of business aircraft say quite seriously they fly instead of driving because they prefer not to risk their necks on the public highway. Statistics certainly buttress their case. Fatalities in business flying now run about 0.7 per 100 million passenger miles, compared with 2.7 for passenger automobiles. Thus, on a mileage basis, planes are roughly four times safer.

Perhaps the splendid safety record of company planes can be attributed to management's conscientious approach to flight safety. For instance, Parker Pen Company, Janesville, Wis., has operated aircraft since 1927, logging 2.4 million accident-free miles. Says Parker's Chief Pilot Roy Coyle of the company's new plane, "There is no other Beechcraft flying today that has radio equipment comparable to that contained in this Parker plane."

Despite impressive safety records, about two-thirds of the companies surveyed won't let groups of top executives fly together. It's Continental Can's policy not to put more than two executives of vice-presidential or higher levels on the same flight. (Similar rules, of course, are frequently applied to auto travel.)

High-Level Headaches

Who flies the company plane? According to the Civil Aeronautics Administration, about 15 per cent of the single-engine planes are flown by professional pilots. And in most cases the plane is only one of a stable. For multi-engine planes the reverse holds true: 85 per cent are flown by company pilots.

Operating a company plane has its headaches for management. One problem plaguing companies today is that they don't really know much about the economic or technical sides of the operation. The usual procedure is to hire a pilot who has management's confidence and then rely on his knowledge and ability to make decisions about the entire operation.

Some big companies are developing aviation departments under executives with transportation backgrounds, who report directly to top management. But where, for all practical purposes, the pilot is boss, internal problems of management and control often result. Many pilots measure their own prestige by the size of the planes they fly. This is a carryover from the commercial airlines, and it can often spell trouble for an economy-minded management, particularly if company executives are so unsophisticated in the practical aspects of business flying that they can't really judge what is needed.

Company pilots may not be executives, but they are well paid in relation to other technicians. DR&MI's survey of companies turned up several salaries over $15,000—the top was $19,000. The salary most commonly mentioned was $12,000.

However, pilot salaries vary widely and a company taking on a pilot for the first time should be aware of the many factors which affect his pay: hours on duty, types of planes flown, extent of responsibility, experience, and background. The NBAA, incidentally, will help both members and nonmembers in locating pilots for company craft.

The cost of operating a plane resists averaging just as firmly. If you own a single-engine Piper Tripacer seating four, and fly it 600 hours a year, the cost will run only about 2 cents per passenger mile. A Lockheed

continued on page 107

Photograph from Devaney

ARE YOU PAYING TOO MUCH FOR DISTRIBUTION?

You probably are, though you may not know it. Finding and fixing the dollar leaks in a company's distribution set-up takes time and effort. But it usually pays off.

CHARLES W. SMITH

WHEN THE AMERICAN economy is rolling along in high gear, few manufacturers stop to figure the sizable losses they may be incurring because of inefficient distribution. Such profit leaks tend to be regarded as normal costs of doing business, and few companies take the time to dig out the facts they need to determine how efficient their distribution systems are. It's only when some thoughtful top-level executive asks, "Are we paying too much for distribution?" that the average company begins to find out what can be done to step up distribution efficiency.

Basically, distribution efficiency is dependent on the structure of the distribution system and the skill of distribution personnel. For example, if a manufacturer is using obsolete warehouses or the wrong distribution channels, even the most adroit staff cannot bring distribution costs into line with competition. On the other hand, even the best-structured distribution system can be inefficiently operated. Through distribution research, nearly every company can find ways of getting more for its distribution-expense dollar.

When a manufacturer has the most efficient distribution system in his industry, he enjoys important competitive advantages. Consequently, few companies disclose much about what they do to increase distribution efficiency. But when companies such as Monsanto, Avco, and National Biscuit announce major changes in their operations after comprehensive distribution studies, it is evidence of the opportunities for profit improvement that distribution research can uncover in even the best-managed companies.

Monsanto and Avco recently liquidated entire product divisions after it had been established that distribution costs on the products could not be made competitive. Monsanto sold its *All* detergent to Lever Brothers, which has the low-cost distribution system required to market profitably any soap or cleanser product. Avco sold its Crosley and Bendix appliance lines to Philco, whose distribution system was better able to compete in the increasingly competitive major-household-appliance field.

National Biscuit Company changed its distribution system to reduce unit distribution costs on some products. In 1954, it organized a Special Products Division as part of a long-range

How Efficient Is Your Distribution?

In planning a long-range program, here are some questions to help you judge your company's present system:

- Does your distribution system serve your customers well?
- Have profit-contribution goals been set at every level?
- Is distribution properly coordinated with production?
- Are distribution facilities up to competitive standards?
- Are distribution personnel carefully selected, thoroughly trained, and well supervised?

program of diversification and expansion. This move—which made the company more competitive with other major dry-grocery-product manufacturers, such as Kellogg's, General Foods, and General Mills—involved the creation of a brand-new distribution system. Responsibility for the sale of the company's cereal and dog-food products was transferred from its regular distribution system (which delivers bakery products in small quantities to insure freshness at point of sale) to the new system (which delivers nonperishable products in multiple case lots to wholesale grocers and food-chain warehouses for redistribution to retail grocery outlets). This eliminated the cost of handling the latter products through branch warehouses, and brought distribution costs into line with competition. As a result, the company is now in a position to expand its nonbakery product lines, and to capitalize more fully on consumer acceptance for Nabisco products.

Room for Improvement

Even though a company has achieved leadership in its industry and is abreast or ahead of its competitors in the structure of its distribution system, there are problems that can be revealed by distribution research.

Take, for example, the case of a leading company in the drug field. When the chief executive told his vice president for sales that he thought it advisable to have an objective audit of the company's marketing operations, the vice president replied, "It's all right with me, but I don't think the study will show that anything can be improved."

After seeing the results of the study, the vice president became an ardent booster of the analytical approach. For he had learned that many of his best salesmen were not making full use of their selling time, because the company's compensation plan was placing a premium on certain unprofitable sales calls. Under the plan, each salesman received compensation credit based on the volume of orders he personally turned over to the company's wholesalers. Therefore, each salesman went out of his way to call on the large retailer accounts in his territory every week, even though he had no reason for a call except to pick up an order that could have been mailed to the wholesaler, or brought in by one of the wholesaler's salesmen on his regular call. Once this situation was recognized, the compensation plan was changed so that salesmen no longer had to waste time on such unproductive calls.

The audit also disclosed that sales territories were not properly balanced in terms of work load. In some areas, many worthwhile small accounts were being neglected. Furthermore, district managers were spending too much time on paperwork, simply because the control reports they were exchanging with headquarters were not properly designed. After the reports were modified, the average district manager was able to spend one more day a week in the field, and do a better job of controlling his men, for the information he needed to control his men was at his finger tips.

A method of retailer inventory control that had been devised by a resourceful sales representative was also uncovered by the audit. The importance of this method in building sales volume might never have been recognized if a planned search had not been made for ways to increase the over-all efficiency of the company's distribution system.

Another company—a major petroleum refiner—discovered through a distribution audit that its line of packaged products (oils, greases, lubricants, tires, and so on) included many more items than actual customer requirements warranted. Also, its field inventories were found to be excessive in many lines; yet stocks were unbalanced, and consequently, incomplete orders were being shipped.

Restructuring for Bigger Gains

While increasing the operating efficiency of an existing distribution system can yield large savings, redesigning a basically inefficient system can be still more profitable. A distribution audit should find ways not only to improve the efficiency of an existing system, but to restructure it if necessary.

Distribution systems, unlike manufacturing plants, are seldom created by design. Few companies have ever systematically explored other possible methods of distributing their products or services. Improvements in distribution have largely been the results of chance, or of competitive pressures from a new producer with

continued on page 76

THE AUTHOR • Well known as an expert on marketing techniques, Charles W. Smith has made the improvement of distribution methods his special interest since he first worked as a distribution analyst for General Electric twenty years ago. Now senior consultant on the staff of McKinsey & Company, Inc., New York, he has just finished a stint as president of the American Marketing Association. He is currently working on a new book, to be published shortly by Columbia University Press. Entitled *Targeting Sales Effort*, this book will provide a method for analyzing market potentials, dealer coverage, and sales performance.

INDUSTRY *AIRS* ITS PRODUCTION PROBLEMS

How factories are using air and vacuum to cut costs

MELVIN MANDELL, *Industrial Editor*

In a tough market, with production and shipping costs continuing to climb, many industrial concerns are finding that air- and vacuum-operated devices can help ease the cost pressure and give a lift to profits.

THERE'S NOTHING NEW about using air and vacuum to do work in factories. What is new is the steady and impressive increase in air- and vacuum-operated tools, forming devices, controls, conveyers and other materials-handling gear, gaging systems, and starters for both stationary and vehicular engines. And these devices aren't unsafe or particularly noisy, as many believe.

More and more factories are adding or substituting all kinds of air-operated equipment or are buying machinery with air- or vacuum-operated handling attachments. As a result, they have been forced to beef up their air-compressor capacity. An extensive survey by DR&MI of both producers and users of compressors reveals a steady and, in some cases, startling increase in compressed-air capacity.

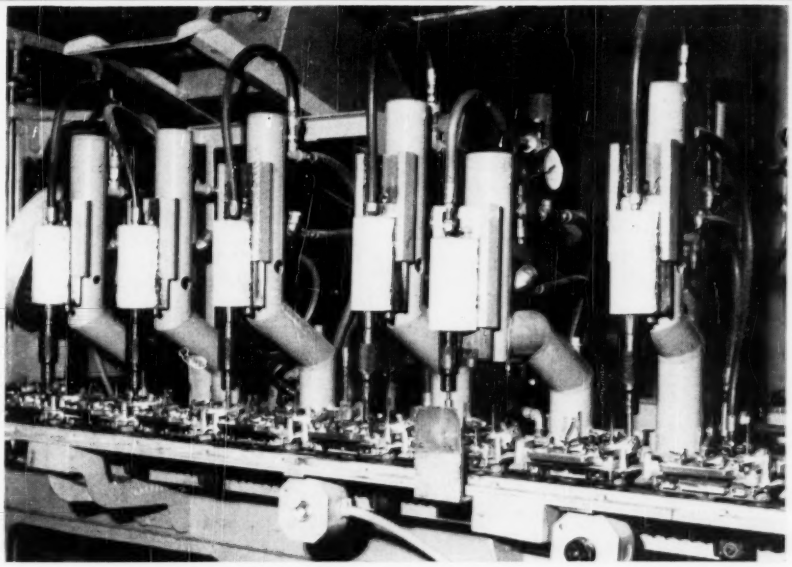
There are many reasons for this increase. The major one is the traditional drive for higher output per worker. Air-operated devices are simply replacing muscle power. Pneumatic conveyers are replacing human legs and shoulders, and screwdrivers, carton staplers, wrenches, vises, and clamps are being operated by air instead of by hands.

Air vs. Electric Tools

Air-operated tools are also cutting into the use of electric tools. With downtime so costly on today's complicated production lines, many factories are switching to air-operated tools because they are "long-lived and easy to maintain," as International Business Machines' factory managers report. Air motors have fewer parts than electric motors and are, therefore, naturally easier to keep up. Since air flows through them when they operate, they can't overheat. In addition, it is impossible to overload air motors—they don't burn out, they just stall.

In many factories, such as chemical, cement, metal-pickling, or woodworking plants, air-operated tools and hoists are winning favor because they are unaffected by corrosive- or dust-filled atmospheres. Electric motors can be sealed to protect them from corrosive atmospheres or to make them explosion-proof, but this adds considerably to the cost and reduces capacity.

Weight-saving is another advan-



HANDLING: A Fuller vacuum system draws powdered alumina from a railroad car to the aluminum-reduction cells at Kaiser Aluminum's California plant. Alumina is one of many powdered materials handled by air.

FORMING: A large plastic shape is lifted out of a single die in this vacuum former at Noma Lite, St. Louis. As air is evacuated, the hot plastic sheet is shaped by atmospheric pressure, eliminating half of costly die.

ASSEMBLING: A line of operators with power screwdrivers was replaced by these Ingersoll-Rand air tools at a hand-iron assembly plant. As belt stops under drivers, an air cylinder moves tools to the work.

tage of air-operated tools. Since they are considerably lighter than electric tools of the same capacity, they reduce worker fatigue.

Ease of control is one reason some factories and warehouses specify air hoists over electric hoists. An inexpensive valve on the air line provides a continuous fine control for hoisting. Electric hoists usually have a limited number of operating speeds, and in handling some fragile parts—such as big ceramic pieces or core molds—finer control means less product damage. Harnischfeger Corporation, Milwaukee, Wis., has been offering an electronic "stepless" control for their electric cranes for the past three years, but most electric cranes do not now offer the infinitely variable control characteristic of the air crane or hoist.

Lifting and moving equipment with vacuum grips or holders instead of chains, hooks, or big magnets is experiencing a minor boom (see photo on this page). Usually, chains or hooks have to be put in place by a helper, but these vacuum grips, which stick to an object by taking advantage of the 15 psi pressure supplied gratis by the atmosphere, can be dropped against the load by the crane operator. Electromagnetic grips can also be positioned by the crane operator, but they require a lot of power; vacuum holders are activated by small pumps driven by small electric motors. And magnets can't grip aluminum sheet, plywood, concrete slabs, or other nonferrous materials.

LIFTING: By adding a Vac-U-Lift grip to a hoist, this boilermaker eliminated two steps in attaching an end section to the drum. Previously, an eye had to be welded on the end piece to lift it into position, then taken off after the two parts had been welded.

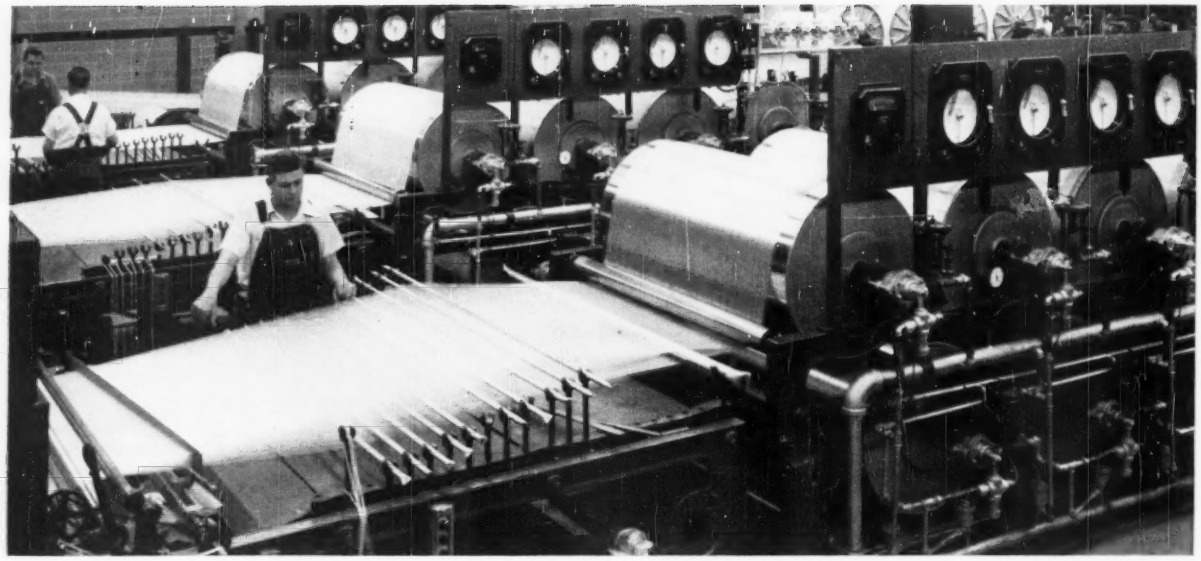
Pneumatic Conveying

The steady and growing insistence on high-production, continuous-flow fabrication favors air- or vacuum-conveying along with other bulk-conveying systems. Pneumatic conveying is not a new concept (it was first used over 150 years ago), but it has lately received much more attention, even in lines of production that were never considered before. In most cases, pneumatic handling has simply replaced batch handling of materials in the form of granules, powders, pellets, and small lumps by bag, bin, or truck. But in some industries, such as baking, the development of new continuous processes has made continuous material handling mandatory. As other industries shift from batch to continuous processing, they will also turn from batch to continuous handling. (Conveying can, however, be economically applied to batch-processing operations as well.)

Pneumatic conveyors require two or three times as much power as equivalent screw, belt, or bucket conveyors, but they have the important advantage of being self-cleaning. Air-conveyor ducts can be curved (in fact, no sharp turns are permitted), but other conveyor systems usually operate in straight-line segments. Pneumatic conveyors can also be reversed to carry materials in the opposite direction.

If material is to be conveyed from many points to one point, a vacuum system is the usual power source. In the reverse situation, a positive-pressure system is used. In complex systems, vacuum and positive pressure are often used together.

Air-conveying systems can be employed to draw bulk-loaded materials out of ships, barges, railroad cars, and trucks and right into the plant's conveying system. One variation of air conveying is used to induce gravity flow of materials from a newly developed hopper called the *Air-Slide* car. Since these cars were first introduced in 1955, close to 3,000 have been placed in service by General American Transportation Corporation. The cars do not carry their own compressed-air system, but must be supplied with low-pressure



EVEN HEAT: Surface drying temperature of each cylinder on this line of high-speed rayon slashers at Greenwood Mills, Harris, S.C. is controlled by a Taylor pneumatic instrument. Automatic pneumatic controls, available for years, will long have a place in industry.

air at the receiver's unloading dock. Introduced through filters, the air "fluidizes" the powdered material, causing it to flow by gravity through outlets in the bottom of the car. The Air-Slide car can also be emptied into a regular air-conveying system. Truck trailers can be equipped with the Air-Slide system.

After the material is processed, if it is still in powder or pellet form, it can be loaded into a ship's hold or a railroad hopper car by air conveying. Air vibrators will then settle it more densely for economical shipping.

Although most of the air-conveyor systems in plants and warehouses are bulk handlers, some carrier systems just like those used to make change in department stores are in operation, too. On demand, small parts, tools, or blueprints can be dispatched by carrier from a central storage point to remote parts of a plant far faster than by any other method. If the carrier is lined with some special packaging material, delicate parts, such as small bearing races, can be transported without damage.

Both compressed air and vacuum are employed to power a diaphragm-type slurry pump made by Dorr-Oliver. Usually the diaphragm is reciprocated mechanically like the old-fashioned butter churn, but in the air version, positive pressure and vacuum are alternately applied to force the diaphragm up and down. Slurries containing up to 80 per cent solids can be moved by this new pump.

In some factories stationary engines are being equipped with air-powered instead of electric starters. They can't burn out. Air-powered starters are also finding a place in materials handling between factories. Some long-haul trucking fleets are switching to these starters, operated off the air-brake system, because they cut the drain on storage batteries and permit fewer to be carried (electric starters are the heaviest load on truck batteries). On a big truck, this switch could mean a saving of 200 pounds, important in states with a gross-weight limitation on trucks. Similarly, air hoists are added to trucks at lower cost and weight than hydraulic tailgate lifts.

Glass, Metal, Plastic Forming

Air and vacuum are also widely used to form glass, plastics, and metals. Each year millions of bottles are formed by compressed air in blow-molding machines. In a reversal of the blow-molding technique, vacuum forming of plastics (see photo on page 44) is gaining wide acceptance. In this process, only one-half of an expensive mold is needed, a considerable saving in tooling costs. The half-mold is drilled full of tiny holes, and then a vacuum pump is connected to the holes. When a thin, hot sheet of plastic is laid over the mold, atmospheric pressure forces the sheet into the mold. Although pieces can't be formed with as much detail as by the usual male and female molds, the vacuum process is satisfactory for many consumer products.

In the latest development in this field, Precision Plastics of Philadelphia and a few other fabricators have combined a sheet extruder and a vacuum former into one machine to eliminate the cost of forming plastic sheet.

Plastic parts can also be formed against a single mold by positive pressure instead of by being sucked against the mold by vacuum. Vacuum is also used in one method of laminating reinforced plastic sheets.

Compressed air is necessary in the final step of forming heat-exchanger tubing in the Olin-Mathieson *Roll-Bond* and Revere *Tube-in-Sheet* processes. In the Roll-Bond technique, a pattern of "resist" is applied between two sheets of metal before they are bonded together. When compressed air is forced through a tiny nozzle between the sheets, a tube pattern is formed where the resist was applied, just as in blowing up a balloon. In the Tube-in-Sheet process, the resist is introduced in rod form into the metal billet before it is rolled into sheets.

These advanced processes are less expensive than other tube-forming

techniques, and since the tubes need not be blown up until the customer is ready to use them, there is a considerable saving in shipping and storage costs.

Compressed air is also used in the S. S. White *Airbrasive* fine-cutting machine tool. Abrasive particles are driven by air against the work piece in an unusual adaptation of the old sand-blasting cleaning technique.

When small parts are formed by dies in stamping machines, compressed air can be used to pop them out. Usually the air can be controlled, so that the part falls directly into a temporary storage bin for easy handling.

Compressed air can also be used to mix or agitate a vat of liquids under processing or to grind down particles. Compressed-air vibrators are used to help settle poured concrete or to shake down hopper cars.

Vacuum is widely used for melting, dewatering, filtering, drying, and plating a variety of materials (DR& MI, December 1957, page 48).

Air-Operated Accessories

An increasing number of machine tools and other fabrication equipment are being offered with air- or vacuum-operated materials-handling attachments that move the work into place and clamp it while some operation is performed. Sometimes these attachments are controlled by a worker, but frequently they are automatic and an important step in making the machine unattended. Among the types of machines fitted with these attachments are metal presses, printing presses, welders, stampers, and compression coaters. In the big, special-purpose transfer machines used in Detroit, however, electromechanical materials handling is favored over air-operated devices.

Air-Gaging

One of the essentials of today's high-speed production and part interchangeability is accurate dimensions. Micrometers, calipers, and gage blocks have always been standard in metalworking shops. Now many gaging jobs in repetitive operations can be done faster and more accurately with air-gaging systems. Compressed air replaces the hand in moving a probe or other sensing element against the part to be measured, although many air gages measure dimensions without contacting the object. Some air gages measure only one dimension, but complex systems quickly measure dozens of dimensions simultaneously (see photo on this page).

Logically enough, the automobile industry is the greatest user of air-gaging systems, as well as of air tools, but many other metalworking plants employ them, too. According to one of the top production men at Ford Motor Company, "air-operated devices, such as multispindle tools of the 'nut-runner' type, and automatic air gages on machines, have definitely improved efficiency and reduced the time required to complete particular operations."

Competitive with electronic, electrical, and some mechanical gages, air gages are usually employed by semiskilled workers on long production runs. Since the accuracy of these gages is not affected by internal wear, they are particularly valuable for long, steady runs, but they are also being used more and more for shorter runs.

Air gages are mostly applied to measure inside diameter, but they can also measure outside diameter, thickness, taper, flatness, angularity, contour, concentricity, and combinations of these dimensions. In one new installation, an air gage continuously measures the thickness of insulation coating on copper wire. Excessive coating thickness and, therefore, a waste of materials, running as high as $5,000 a year, are prevented.

Pneumatic Control Systems

The great majority of automatic controls and remote indicator devices used in plants today are powered by low-pressure compressed air. These pneumatic instruments, which have been in use for decades, are resisting the advance of electronics with great vitality. Developed to a high degree of reliability over the years, the instruments are especially prized by factory managers who don't have one of those scarce electronic maintenance men. They are also cheaper (as little as $100 apiece) than comparable electronic devices, although when long air lines between units are considered, total installation costs are about the same.

Pneumatic controllers can be located up to 1,000 feet away from the central control board before the time lag caused by frictional losses in the air line becomes excessive. The enormous speed of electronic instruments is their major advantage over pneumatic types (and hydraulic ones, too), but the fraction-of-a-sec-

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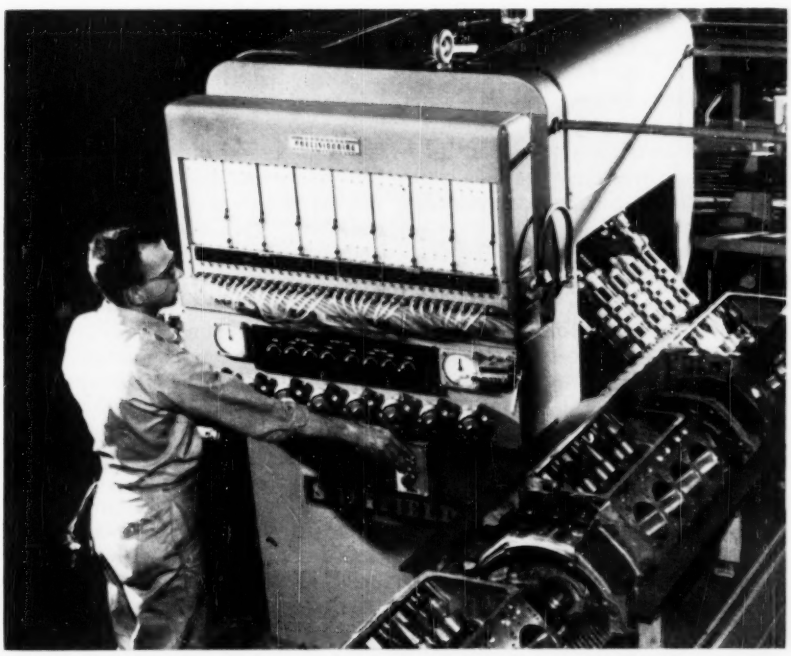
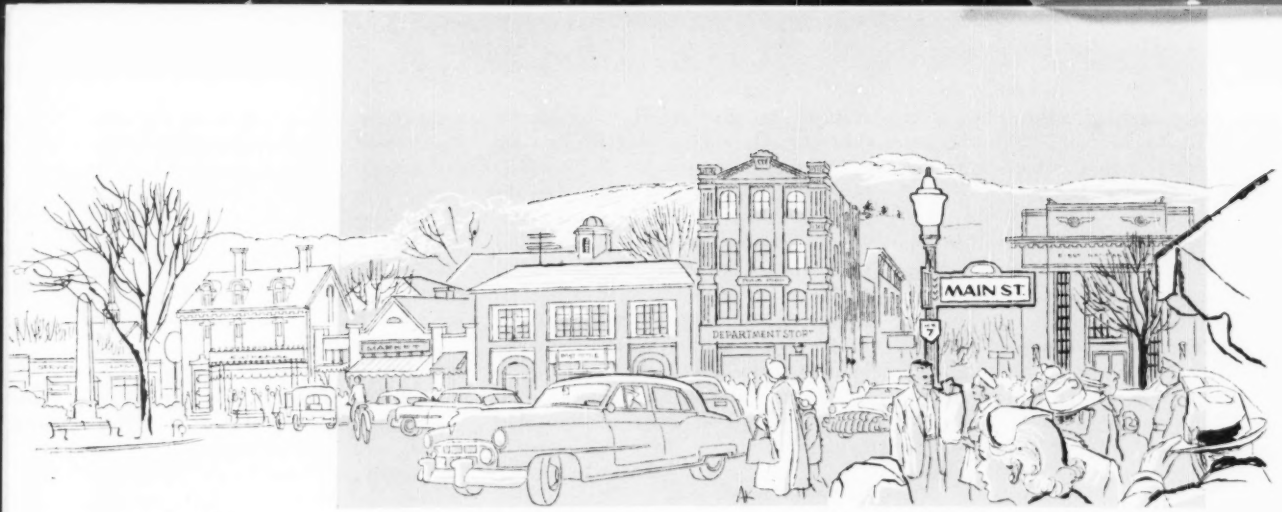


GAGING: At an Oldsmobile engine plant, 32 key dimensions in cylinder blocks are quickly and accurately measured by this Sheffield air-gaging system, eliminating costly hand gaging.



GETTING ACROSS TO YOUR FINANCIAL PUBLIC

As "people's capitalism" spreads throughout grass-roots America, companies with publicly traded stock need to win and hold the confidence of Main Street. But principal opinion remains the key to many corporate futures.

HERMAN S. HETTINGER
D. M. S. Hegarty & Associates

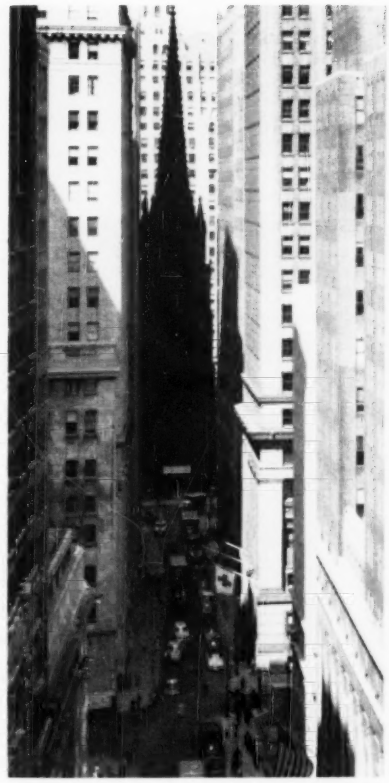
IN THE great postwar surge of our economy, rising personal incomes created a new investor class, a "people's capitalism," with more than 8.7 million shareholders, a gain of about a third over four years ago. In more and more companies, corporate management began to eye with increasing interest the advantages of becoming well known and widely appreciated in the financial community and among the investing public. This was the beginning of a trend that in recent years has been gathering momentum.

Today many large corporations are establishing special shareholder or investor relations departments. Top management is making itself more accessible to security analysts and the financial press than in the past. More and more company presidents are letting it be known that they would be happy to appear before security-analyst society meetings, to such an extent that offers are outrunning the supply of available dates. Each year, more annual reports vie for best-of-industry awards and over-all corporate "Oscars."

In step with the trend, articles discussing various aspects of stockholder and financial relations are appearing in business and professional periodicals, and management conferences devoted to the subject are also on the increase. The demand for specialists in this field has resulted in a marked rise in the number of organizations dealing exclusively with financial public relations, and a leading opinion-research organization has recently established an investor-relations research division. Over-all, the result has been a slow but steady improvement in annual and interim reports, the conduct of annual meetings, and stockholder communications programs in general.

Several forces have contributed to this upswing in interest. The great proxy contests of recent years, involving the New York Central and the New Haven Railroads, Montgomery Ward, and others, undoubtedly provided a transitory stimulus. So did the enticements of a bull market. But the main reasons are the new needs for equity financing arising from the tremendous postwar growth of our economy; the multitude of new investors created by rising incomes, more widely distributed; and the growing knowledge and sense of responsibility of both the investment and business communities.

Other developments also fed the mounting interest in keeping stockholders and investment houses adequately informed. The New York Stock Exchange threw its weight behind the dissemination of financial



Devaney Photographs

information. The rise of the security analyst to new high levels of professional recognition was another constructive influence. And as a widening circle of companies demonstrated the value of financial- and stockholder relations programs, others have followed their example.

Objectives and Benefits

Financial public relations has one prime objective: to insure the proper evaluation of a company as an investment. This is achieved by the circulation of accurate information on the company's industry position, current activities, earnings, and future prospects.

Various advantages can be secured from the successful pursuit of this objective. Among the more important are a broadened base of stock ownership; a stronger bargaining position when acquisitions are made by the exchange of stock or when a company is being sold; greater strength if new financing becomes advisable; a stronger credit position; and support from stockholders and the investment fraternity in temporary periods of adversity.

In certain special situations, well-planned financial public relations can also be helpful—for example, when a privately-held concern becomes publicly owned for the first time. In such a case, it is imperative to stir up interest in the company by creating understanding of what it is and does. A similar situation arises when a corporation's securities are listed on a major exchange for the first time and are traded by new segments of the financial community.

Corporate images last surprisingly long in Wall Street. This is not always to the advantage of a company, for a corporation may continue to be tabbed as a member of a static or declining industry long after it has successfully expanded into new and promising fields. Adequate publicizing of the changed character of a corporation's business is another job for financial public relations. This has become especially important in recent years because of the marked trend toward diversification and the rise of "polyglot" enterprises, frequently active in an amazing variety of fields. Similar needs for changing the "corporate image" arise when the operations of an old-line concern are modernized and revitalized by a new management, when the relative importance of various divisions or activities shifts, or when management faces the difficult task of overcoming a deep-seated negative impression created, possibly many years before, by the shortcomings of some predecessor.

Just as fashions play a part in more frivolous activities, they also influence business practice. For example, shortly after World War II it was a rare annual report that did not contain some kind of pie chart showing how much of the sales dollar was required for materials, wages, taxes, and other necessary outlays, and how much remained as earnings. Fortunately, these charts are not flourishing in today's more sophisticated climate. Several years ago, elaborate brochures describing research programs, product lines, new facilities, and similar items were the fashionable accompaniment of many annual reports. These too are on the way out.

Currently, a great deal is being said and written about bigger and better annual meetings and more complete reporting of the actions taken at them. While this is all to the good, if taken in proper perspective, the fad element is undoubtedly present in this trend, too, and neither device deserves too much emphasis.

A quick examination of the facts will show why. Despite the large attendance at recent annual meetings of some industrial giants, stockholders actually present usually represented no more than one-half to one per cent of total company share owners. On this basis, the average corporation with sales of between $50 and $100 million might expect between 20 and 40 shareholders at its annual meeting. A company in the $200 to $500 million category might anticipate an attendance of around 100, or possibly 200, stockholders. Though the 99 or more per cent of share owners not in attendance should be told about any significant happenings, the business before most corporate annual meetings is so routine that it can easily be reported in several paragraphs in the next interim report.

In other words, the road to effective financial public relations lies less in following what is currently being done throughout industry than in making a careful *functional* analysis of your company's individual problems. Fortunately, enough experience has been accumulated to provide some guides to this goal.

Direct Mail Problems

The obligation and practical desirability of keeping present stockholders adequately informed is generally recognized. There is no major problem here, since shareholders not represented by stock in brokers' names can be reached through mailings by the transfer agent. Unless special arrangements are made, however, the group represented by brokers will only receive the annual report, notice of meeting, and proxy statement, which brokerage houses are required to forward to them. Since the proportion of outstanding shares in brokers' names varies materially from company to company, determination of policy on communications to such owners must be made in the light of individual circumstances.

The most important person influencing investment opinion, however, is the security analyst. Financially sophisticated, highly skeptical, and abundantly equipped with economic data, he is skilled in appraising the

relative investment values of companies and industries. His studies and recommendations affect decisions throughout the financial community—in investment banking firms, brokerage houses, and over-the-counter dealer organizations, as well as among the mutual funds and investment trusts, institutional investors, investment counselors, and statistical services. Since most people consult either their broker or some other expert before making a purchase or sale, the analyst's evaluations also affect the investing public.

Although the security analyst's role is becoming more widely appreciated by the business community, there is considerable ignorance about which analysts are interested in which corporation. This obstacle to effective financial public relations can have the unfortunate effect of wasting mailings on the wrong analysts and possibly ignoring the right ones.

THE AUTHOR. Out of Herman S. Hettinger's wide experience in various business fields have come several authoritative articles and books on business and economic problems—notably *Financial Public Relations for the Business Corporation* (Harper & Brothers, 1954), which is regarded as the standard work on the subject. Now vice president and partner of D.M.S. Hegarty & Associates, New York, Mr. Hettinger served during the war as deputy director of the Office of War Information, planning and supervising economic education programs for the home front. Born in Pennsylvania, Mr. Hettinger is a former professor of marketing at the University of Pennsylvania.

An examination of the facts will point up the problem. Estimates of the total number of analysts vary from a low of around 6,000 to a high of 10,000. However, many analysts, and the concerns with which they are associated, specialize in well-defined fields outside the province of the average industrial corporation—e.g., utilities, rails, oils, bonds vs. stocks, municipals or other government securities. If we eliminate these specialists, it is probable that analysts concerned with the evaluation of industrial enterprises may total about 3,500. An even further refinement is desirable, for there is a good deal of specialization by industrial groups in the larger brokerage organizations — those with branches throughout the country and "wire houses" whose services as correspondents to out-of-town brokerage concerns include analytical studies of individual companies and related items. Such organizations obviously exert a major influence on investment opinion.

Consequently, mailings should be addressed to individuals whenever possible. Over 1,100 companies are listed on the New York Stock Exchange, hundreds more on the American Stock Exchange, and the securities of additional hundreds of good publicly-owned but unlisted concerns are traded in the over-the-counter market. All are competing for analyst *attention* in the hope of arousing analyst *interest*. But unless the annual or interim report is addressed to the right person, chances are it will be routed to the library or reference file, there to rest unseen unless called for.

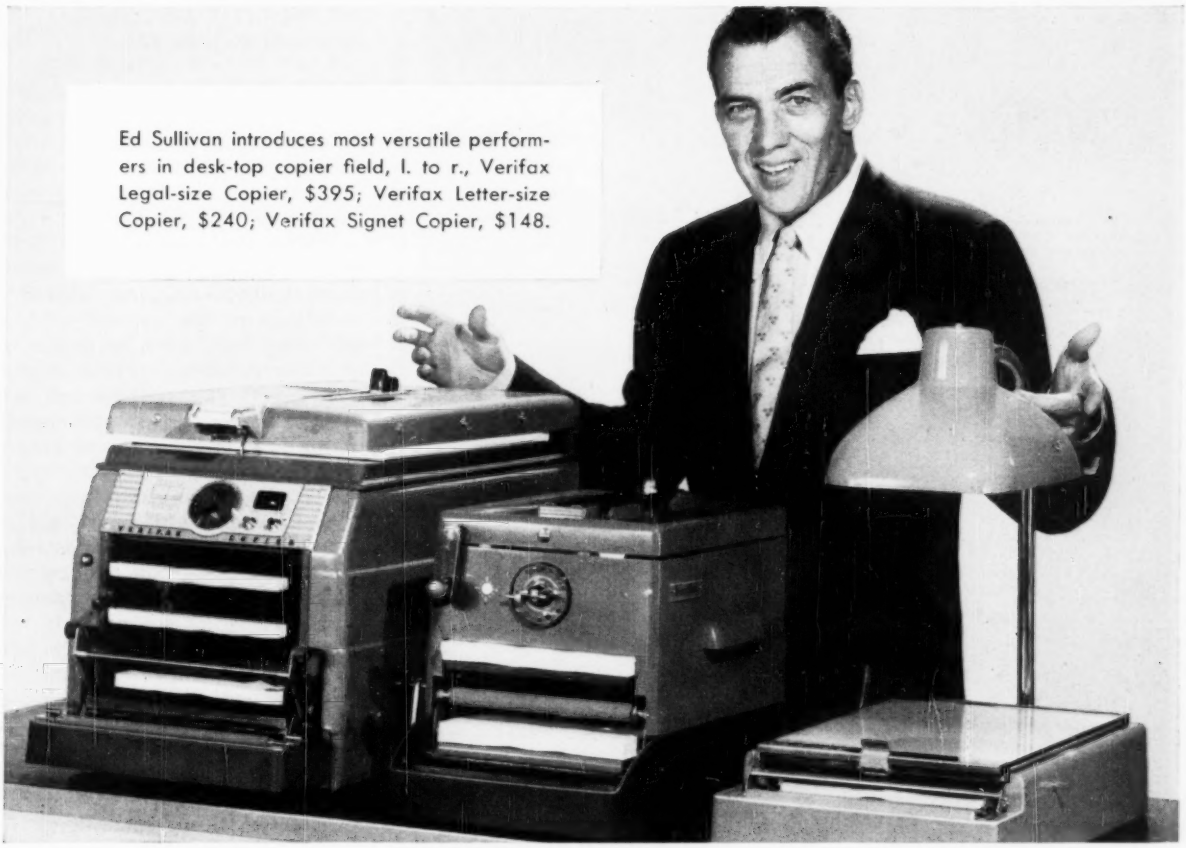
Since available mailing lists rarely provide enough detailed information, there is no easy way to develop a listing of organizations and analysts that will meet the needs of a particular corporation. The foundation of a reasonably adequate list, however, can be developed by a careful culling of *Security Dealers of North America* (Herbert D. Seibert & Company, New York), a long-established standard reference work known in financial circles as the "Red Book." Even then, results will be more useful if the culling is done by or with the help of someone intimately acquainted with the financial community.

Pertinent Information

The quantity and quality of information in corporate reports has improved greatly in the past decade or so. This is particularly true of the annual report, which has so far received most of the attention. Before

continued on page 64

Here is a sampling of the great variety of communications that companies use to keep in touch with their financial public. Included are a quarterly report, a quarterly letter, a report on annual meeting, a notice of annual meeting, a dividend insert, a proxy statement, a letter to new stockholders, special bulletins, and an annual report.



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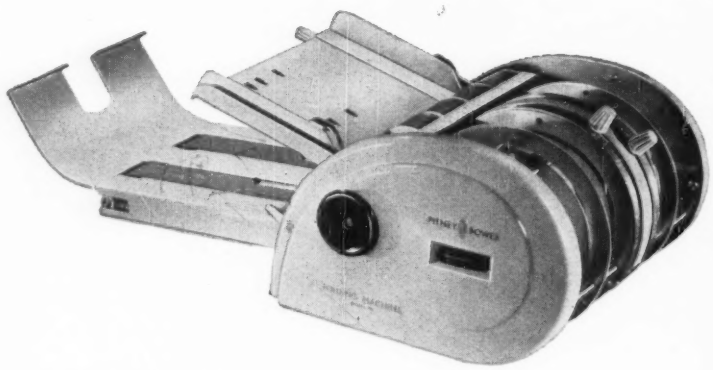
TRADE MARK

Simple folding machine beats girl-time!



It takes several girls' folding by hand to match the performance of one girl with this small, low cost office folding machine—the Pitney-Bowes FH!

Hand folding is slow, tedious, costly. Even with only an occasional folding job, the FH soon pays for itself in any office. *It costs no more than a standard typewriter.*

Simple to operate—anybody can use it. Set in seconds, by merely moving two knobs. So light it can be moved easily.

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The FH is one of the best buys in office equipment today. Ask the nearest Pitney-Bowes office for a demonstration. Or send coupon for free illustrated booklet.

The larger FM, fully automatic, can fold up to 19,000 sheets an hour.

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Folding Machines

Made by the originator of the postage meter . . . 107 branch offices, and 302 service points in the U.S. and Canada.

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1524 Walnut St., Stamford, Conn.

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THE "RESULTS" APPROACH

continued from page 37

How does this approach work in specific cases? Let's look at a few examples in production, sales, and finance.

Production for Profit

The top executive must ask, "What basic results are expected of the production division? How should it contribute to the over-all goals of this company?" Then he should examine every job in the division, especially every management job, and ask, "How can this job best contribute to the over-all results we are trying to achieve?"

A common complaint in industry is that foremen just don't "take responsibility." Generally this is a symptom of poor application of management principles by top management itself.

A typical case was a food processing plant where cost reduction programs lagged, waste was high, and new method installation appeared to be at a standstill. Little had been done to set clear company objectives and related subobjectives for each management man down the line. In addition, under the guise of "maintaining control", many questions of relatively minor consequence had to come to the top office for decision.

When management adopted the "results" approach, improvement began at once. Specific company objectives were crystallized and applied throughout the organization. All personnel activity was geared to objectives. Appraisals were changed to stress accomplishment. Foreman pay was tied to production goals, and foreman authority was broadened. Training programs and management programs were geared in to help accomplish these goals. In short, all employee activity was focused on results. Improvement in employee attitudes was accomplished with little difficulty, because a thoughtful and consistent "results" approach must include careful consideration of the impact on employees.

In adopting a "results" approach to production, management must also think through staff and line relationships very carefully. Often changes will be needed. When, for example, management tries to split the credit for a methods improvement between

the methods engineer and the foreman, it is sowing the seeds of a common kind of trouble. Line people must get full credit for any achievement in their departments. But (and this is where many companies err in practice) the staff people must *also* get full credit for any achievement in their functions. Compensation systems, promotion schemes, and appraisals must make this "double credit" system a real and effective one.

A popular staff-line theory conceives of staff as purely a service to the line. Staff people, in this view, should expect the line to take all the credit for results. The staff man, in other words, is regarded as a self-effacing, spineless, devoted, nonpulsating creature who lurks in the background, eagerly serving the line master and content with barely a crumb of recognition. Needless to say, this notion isn't realistic. People just aren't like that.

Furthermore, there must be some clear thinking done on the results staff functions are really designed to achieve. Management must carefully appraise the *total* effect of the staff function, not just the apparent reason for its existence. This very often leads to a concept of balancing objectives. For example, a quality-control man who concentrates on quality alone very often hinders the operation of the line, because he is not concerned about the waste and extra production time required to meet quality standards. He always seems to be at odds with the foremen. But when he is held responsible for both quality *and* waste, he is often more in tune with the direction of the production flow.

Accent on Objectives

Employee relations programs and training methods should also be planned and judged from the viewpoint of results. Many induction training procedures are of very questionable value because they emphasize "selling" the employee on the company (usually he's already sold or he wouldn't be taking the job) and giving information (much of it confusing)—but not improving the productivity of the new employee. Frequently the value of employee-relations training is "proved" by questionnaires resulting in such statements as, "Ninety-five per cent of the men said they liked it." When

Bullish on Columbia Ribbons & Carbons

"On stock transactions no longer do we err,
Because copies three and four no longer blurr," said Low to High.

"I'm high on Low," said Last. "Ever since he teamed our business machines with Columbia Ribbons and Carbons!"

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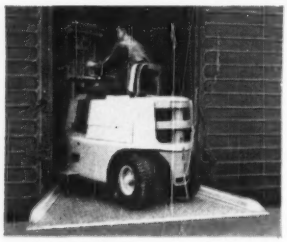
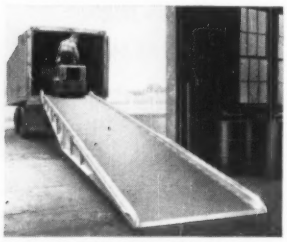
COLUMBIA RIBBON & CARBON MANUFACTURING CO., INC., GLEN COVE, NEW YORK

an EXTRA power truck for the price of a DOCK BOARD!



NARROW CONGESTED DOCK? This narrow rail dock required a flared Magliner dock board, allowing power trucks to make sharp, right angle turns.

OUTLYING YARD CARS? No problem to load or unload directly from dock with Magliner car-to-car dock boards. Eliminates car-spotting and demurrage costs.



GROUND LEVEL LOADING? Check into a Magliner mobile loading ramp—a loading dock on wheels . . . where you want it . . . when you want it. One man moves it.

Your power trucks move *more* loads faster . . . when you back them up with Magliner magnesium dock boards! Magliners speed dock traffic . . . eliminate bottlenecks . . . give you faster loading cycles. Men, loads and equipment move surer, safer—efficiency goes up and loading costs go down! As one customer put it:—"*With Magliners on our dock, we get more out of our loading equipment. It's like having an extra power truck on the job . . . for the price of a dock board!*"

Engineered to meet the specific requirements of your dock and operating conditions, Magliner dock boards are made of magnesium for easy one-man handling . . . rugged, dependable service. Safely handle loads up to 20,000 lbs. *Other dividends?* Low initial cost. Less maintenance. Plus exclusive features like Magliner's Tire-Saver side curbs, Triple-Strength curb ends, and many others. You get big important cost-savings—*ALL* ways—when you put Magliners to work on your dock!

MagLiner MAGNESIUM

DOCK BOARDS

Please send me my copy of "How to Cut Dock Loading Costs."

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MAGLINE INC. • BOX 31 • PINCONNING, MICHIGAN

Canadian Factory: Magline of Canada, Ltd., Renfrew, Ontario

management applies the results approach, it investigates more thoroughly. The criterion is: Did the foremen and superintendents handle their people better? And the improvement is judged by the productivity of their work groups.

In many firms operational record systems may be at fault. Many employee programs give these little attention. Many accountants and controllers have sold management short by developing record systems that give a broad (though not timely) financial picture of the operation, but do little to inform and stimulate *all* management men to greater achievement. If these record systems are not broken down by department, for example, and then, where at all possible, in terms of each foreman's responsibility, they will not usually encourage the best possible results from each department. Each foreman should know where he stands currently in relation to his objectives. He should get current reports of any deviations so that *he* can take action on them.

"Sleepers" in the Contract

The same approach is effective in labor negotiations. Careful scrutiny in terms of results will show that some clauses which look important because they cover "management prerogatives" may help production little, and others which seem minor are "sleepers" that can seriously affect operations.

How may this approach be applied to the sales operation? In many companies the emphasis is almost entirely on volume. Instead, the question should be, "How can the sales department best contribute to the over-all needs of the company?"

In many firms sales profit should be a major concern of the sales department, even of the individual salesman. How can this be accomplished?

First of all, each man is made individually accountable for sales profit from his territory, and the compensation plan is revised to take this into account, if it does not already do so. The record system may also have to be revised, so that all cost of specials—rush jobs or changes in standard line—can be charged against the salesman. The training

programs may have to be revised too, for a creative selling job under this plan means selling a customer on buying standard items (as he will often do after some explanation).

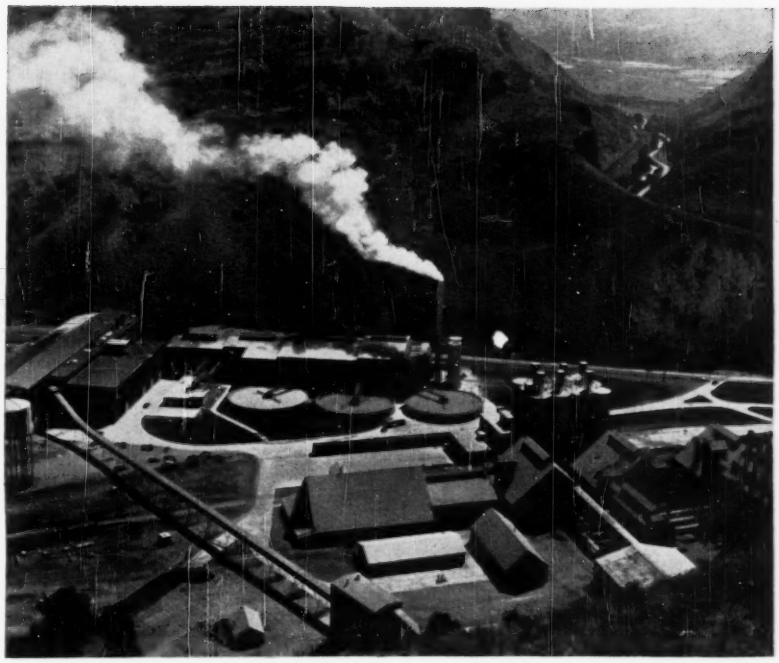
When sales profit is first discussed with a salesman, his reaction may be, "That's fine. I agree in principle, but I really can't do much about it—I've got to satisfy my customers." Real action on sales profit may be difficult to get started until it is built into the whole operation.

The New Account Problem

Most companies must have a constant flow of new accounts in order even to maintain their positions, but they often have trouble persuading salesmen to concentrate enough on new accounts. They are harder to crack, and initial volume is often low in terms of the sales effort expended. To overcome this problem, the company should make the development of new accounts part of each salesman's job responsibility, and this should be recognized in the compensation plan for both salesmen and sales managers.

For every sales job, the definitions of responsibilities and authority should explicitly stress results. Any merit appraisals of sales people should reflect a balanced concern for all the results expected of the department—not just with personality traits such as initiative, ingenuity, and judgment. Compensation plans should be changed accordingly. Supervisory and training plans should be carefully reviewed from the same standpoint. Benefit plans should be scrutinized to make sure that, at the very least, they aren't running counter to these objectives (amazingly often they are). When the sales department is appraised and paid on the basis of what it is doing to meet *all* the objectives, a somnolent sales team wakes up. Merchandising programs take on a broader perspective. Cost-cutting opportunities are revealed.

The same principle applies elsewhere. All too often, financial and statistical personnel, free of any responsibility for seeing that the company gets real value from their work, have been permitted to produce reams of interesting but often useless reports. This is unfair to the statistical men themselves, because it holds



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To keep pace with the growth of our country, in the past 10 years since 1947 the production of Ideal Cement has been more than tripled, from 7 million to over 24 million barrels per year.

For more than 50 years, Ideal stock (and that of its predecessor companies) has been on the Over-the-Counter market. Listing has now been effected on the New York Stock Exchange and the Pacific Coast Stock Exchange.

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Rol-Dex announces a NEW 2½ level STANDARD UNIT

gives you more filing inches in the same floor space!

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The Model RC—new in the ROL-DEX family of cost-saving STANDARD active record handling units.

By using two and one-half decks or levels of *rolling card trays,* additional filing space is obtained without adding to the floor space used:

RECORDS *ROLL* TO THE SEATED CLERK!

NOW you can use Rol-Dex STANDARD for:

- tab on end (3¼" x 7⅜") — 424 filing inches
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and the new RC-94 especially designed for rapid commercial check (9" x 4") filing.

— all units also available in STAND-UP or MOBILE styles.

Send for more information about these versatile, cost-saving STANDARD Rol-Dex units.

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Rol-Dex Division, Dept. D-3
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back their development by insulating them from the daily problems of running a business. As a consequence, "figure" men may earn a reputation for being stooges for top management, for being ignorant of the real problems of the rest of the organization, or for both.

Management ought to ask, "What is the purpose of these records?" Each man in charge of statistics should be obliged to analyze every record he develops, in terms of what it contributes to the company. His job description should not merely state that he must prepare certain reports. It must make him responsible for insuring that something worthwhile *happens* as a result of these reports. Every record should be scrutinized from the standpoint of what it actually does for management. Statistical men must be made accountable through appraisals, promotion systems, and compensation systems for making their records help get real results for the company.

Where statisticians and financial men are regarded as keyhole sleuths whose job is to trap the unwary, they are placed in opposition to everyone else in the company, and an unhealthy climate of distrust is sure to exist. This tends to reduce the valuable contributions statistical personnel can make to over-all company results. When the records they produce are tied firmly to results expected of all the people in the company, they become a needed (and demanded) aid to other employees, and records that do not meet the test are automatically exposed. The efficiency and effectiveness of the accounting people are increased, and they become a strong positive force, aiding all other employees to achieve the results expected of them.

Almost every organization has access, in its own people, to a vastly greater store of ability, ingenuity, judgment, and human potential than it ever uses. The "results" approach guides every operation of a company toward the central objectives, and releases employee potential in that direction. In the aggregate, this potential represents a tremendous untapped source of improvement and profit—a major challenge to every management today. END

This man is armed!

He has all the facts and all the figures about his company at his fingertips . . . because Burroughs Sensimatic's new Management Control concept puts them there, keeps them there! Yes, "live ammunition" to support his recommendations; to crystallize management decisions realistically.

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Thanks to creative chemistry,

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"**Rayon-cord** tires have been a lifesaver for the trucking industry," relates A. C. Scott, president, Geo. F. Alger Co. (*The Line of Champions*). "And improvements have made them better than ever—for there's no comparison between rayon tires we're getting today and those of several years ago. Yet we understand that even *more* improvements are on the way." President Scott and the Alger Co. enjoy a nationwide reputation in the promotion of highway safety . . . producing more state- and national-champion drivers than any other single company!

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TIRE FAILURE at today's highway speeds is a rather rare occurrence. But should it happen to *you*, remember, it's much like a parachute failure . . . it generally happens only once. And blowouts are usually caused by heat build-up, the big enemy of tires.

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Fact 1: Rayon tire cord actually grows stronger as road heat increases. Fact 2: Modern rayon cord makes tires more stable for better retreading; insures longer tire life. Fact 3: Rayon-cord tires ride smoother and quieter. Fact 4: Rayon, today, is greatly improved . . . 50% stronger and 60% more flex-resistant since just 1950. But even more important, *latest reports indicate still better rayon tire cord has already been developed, with 15%-20% additional strength over present standards.*

And these facts are reasons why automobile manufacturers chose rayon-cord tires for original equipment on more than 99% of all today's new cars, and on the vast majority of trucks.

Where does Wyandotte come in? Right at the beginning, with the industry's purest rayon-grade caustic soda, which plays a vital role in the viscose-rayon process.

If you produce products that rely on chemicals, why not look into our diversified line? Convenient location, dependable delivery, and the results of consistent research . . . these and personalized technical service are yours when you need them. Why not drop us a line? *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

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CHEMICALS

Pacing progress with creative chemistry

2 **"Our new** fire engine and our ambulance — two vital community tools — are equipped with rayon-cord tires," states F. E. Duemling, police and fire chief of Grosse Pointe Shores, Mich. "We've never had a blowout; never been delayed by tire trouble. What more could we ask by way of safety?"

3 **Look around you** — chances are you'll see rayon . . . in everything from the latest Paris fashions to the fine furnishings in your home! In addition to using caustic soda in the viscose-rayon process, the textile industry uses soda ash, bicarbonate of soda, chlorine, and other products made by Wyandotte.

4 **In Wyandotte's** modern research center, skilled scientists are preparing today to meet the chemical needs of tomorrow. Wyandotte customers benefit from this constant quest for improvement . . . with new and better raw materials for everything from rubber, paint, glass to pharmaceuticals, petroleum.

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SPECIAL REPORTS ON FINISHING NON-FERROUS METALS

NUMBER III—Lustrous, Corrosion-Resistant Finishing with Chemical Polishing Iridite

WHAT IS IRIDITE®?

Briefly, Iridite is the tradename for a specialized line of chromate conversion finishes. They are generally applied by dip, some by brush or spray, at or near room temperature, with automatic equipment or manual finishing facilities. During application, a chemical reaction occurs that produces a thin (.00002" max.) gel-like, complex chromate film of a non-porous nature on the surface of the metal. This film is an integral part of the metal itself, thus cannot flake, chip or peel. No special equipment, exhaust systems or specially trained personnel are required.

Chromate conversion coatings are widely accepted throughout industry as an economical means of providing corrosion protection, a good base for paint and decorative finishes for non-ferrous metals. Certain of these coatings also possess chemical polishing abilities that have luster-producing, as well as corrosion-inhibiting, effects on zinc and cadmium plate, zinc die castings and copper alloys. However, continued developments in this field have been so rapid that many manufacturers may not be completely aware of the breadth of application of this type of finish. Hence, this discussion of the many ways in which this chemical polishing characteristic can be used in final finishing or pre-plating treatments to produce a lustrous appearance with distinct display and sales appeal and appreciable savings in cost. Report I on decorative, corrosion-resistant finishes and Report II on paint base corrosion-resistant finishes are available on request.

The degree of luster possible on a surface is a function of the degree to which the surface can be smoothed. Leveling to provide a smooth surface can be achieved by mechanical or chemical means, or a combination of these, depending upon the luster desired and the original condition of the metal. Chemical polishing effectively imparts luster otherwise difficult and costly to obtain. For this reason, it is often used to supplement or entirely replace mechanical polishing, depending upon the application and the original condition of the metal. Chemical polishing has the additional advantage of providing overall treatment of the submerged part. It reaches into even the deepest corners and recesses that are otherwise inaccessible. Certain of the Iridites are specifically designed to perform this chemical polishing operation. Also, they provide corrosion protection as do all Iridites, thus may be used as a final finish or a pre-plating polish.

If Iridite is to be used as a final finish, in contrast to pre-plating treatment, the chromate conversion coating generated is allowed to remain, providing good corrosion resistance. Color inherent in these Iridite films ranges from a yellow cast to yellow iridescent. These coatings may be used without further treatment where this color is acceptable and good corrosion resistance is desired. Further, these basic coatings can be tinted by dyeing. Among the dye tints available are shades of red, yellow, blue and green. If desirable, the basic coatings can also be modified by a bleach dip leaving a clear bright or blue iridescent finish. In all cases bleaching reduces corrosion resistance.

As examples of this type of final finishing, Iridites #4-73 and #4-75 (Cast-Zinc-Brite) make possible for the first time, lustrous chemical polishing of the as-cast surface of zinc die castings. Thus, in many cases, sizeable savings in finishing cost are realized by elimination of plating costs. This economical method can be used on tools, appliance parts, toy pistols, locks and many other small castings. Another example is the treatment of copper and brass parts, such as welding tips, to eliminate buffing and provide additional corrosion resistance. In many cases, handling costs are reduced appreciably by replacing piece-part handling with bulk processing. Still another example of the use of this chemical polishing and protective quality of Iridite is a simple system of zinc plate, Iridite and clear lacquer instead of more costly electroplated finishes. Typical of this type of lustrous finish are builders hardware and wire goods.

As a pre-plating treatment, in contrast to final finishes, Iridite can be used to chemically polish zinc die castings or copper prior to plating. In such cases, Iridite should be applied as an in-process step, so that the protective film is removed before the plating cycle. The savings in handling, material and labor costs are obvious. This process has made it practical to plate chrome directly over copper on steel, conserving nickel, yet producing a lustrous chrome finish. Used after stripping faulty plate in reprocessing zinc die castings, Iridite restores luster to the casting, thus making possible replating without blistering.

Other Iridite finishes are available to produce maximum corrosion resistance, a wide variety of decorative finishes and excellent bases for paint on all commercial forms of the more commonly used non-ferrous metals. As a final finish, appearance ranges from clear bright to olive drab and brown and many films can be bleached or dyed. As a paint base Iridite provides excellent initial and retentive paint adhesion and a self-healing property which protects bare metal if exposed by scratching. Iridites have low electrical resistance. Some can be soldered and welded. The Iridite film itself does not affect the dimensional stability of close tolerance parts.

Iridites are widely approved under both Armed Services and industrial specifications because of their top performance, low cost and savings of materials and equipment.

You can see then, that with the many factors to be considered, selection of the Iridite best suited to your product demands the services of a specialist. That's why Allied maintains a staff of competent Field Engineers—to help you select the Iridite to make your installation most efficient in improving the quality of your product. You'll find your Allied Field Engineer listed under "Plating Supplies" in your classified telephone book. Or, write direct and tell us your problem. Complete literature and data, as well as sample part processing, is available. Allied Research Products, Inc., 4004-06 East Monument Street, Baltimore 5, Maryland.

Executive BOOKSHELF

Those Soviet engineers

SOVIET EDUCATION FOR SCIENCE AND TECHNOLOGY *by Alexander G. Korol. The Technology Press, Massachusetts Institute of Technology, and John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, 538 pages, $8.50.*

Is the Soviet educational system better than ours, as the recent Russian space exploits have led some people to believe? This book, which is an exhaustive study of the curricula of the Russian ten-year schools and the higher educational institutions that provide training in science and technology, should help the reader to arrive at his own conclusions.

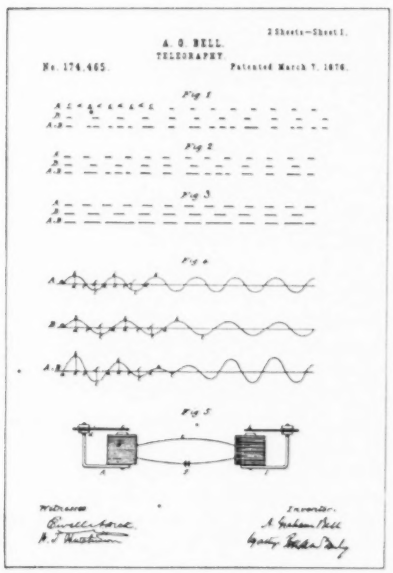
The author points out that the aims of the two systems differ widely. Traditionally, the goal of American education has been to develop the intellectual and moral stature of the individual; that of the Soviet is to inculcate maximum technical knowledge and vocational skills and to indoctrinate the students with communist dogma. Fortunately, says Mr. Korol, "there is ample evidence that its success in formal training . . . has not been matched by anywhere equal success in communist indoctrination."

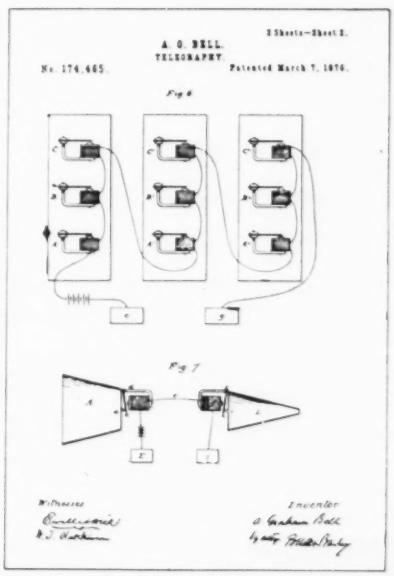
Ideas and patents

IDEAS, INVENTIONS, AND PATENTS: HOW TO DEVELOP AND PROTECT THEM *by Robert A. Buckles. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, 286 pages, $5.95.*

This is a layman's book on patents —a clear, simple explanation of when and how to obtain a patent, intended for both companies and home workshop inventors. Examples of patent applications are included, and there is a chapter on designs, copyrights, and trademarks.

It may come as a surprise to some who have had a patentable idea lying around for a long time to learn that they can lose out in the patent race by not working on it—even if they can prove they were the first to think of it. The inventor's "activities between the dates of alleged conception and reduction to practice will be closely scrutinized and any lapses in his record which may tend to





Ideas, Inventions, and Patents

These drawings accompanied A. G. Bell's first application for a patent on "an improvement in telegraphy." The fact that the instrument might transmit voices was hardly mentioned.

Of paramount importance to industrial management and union leadership!

TOWARD THE AUTOMATIC FACTORY

by Charles R. Walker, Director, Yale Technology Project

Here is a thoroughly documented view of what the future holds for equilibrium between technological and human forces.

This actual case study is an intensive and revealing analysis of what happened when U.S. Steel took a giant-step toward automation and opened the first continuous seamless pipe mill in the U.S.A.

For the inventor — the realization of a *mechanical dream;*

For the finance committee of the Corporation — *a major investment to meet competition;*

For the union — *an opportunity* as well as a menace, involving skills, living standards, and employment;

FOR THE INDIVIDUAL WORKER — *the biggest single event in his working life.*

$5

YALE University Press, New Haven, Conn.

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EASIEST WALKIE-TRUCK TO OPERATE AND MAINTAIN EVER!
FINGER-TIP CONTROLS INCLUDING DYNAMIC BRAKE TO ELIMINATE "PLUGGING" THE MOTOR GOING DOWN RAMPS, AND "ARTICULATED" CONSTRUCTION ADJUSTS TO UNEVEN FLOORS. STEERS EASILY AND WORKS IN LESS SPACE BECAUSE OF THE DUAL WHEELS & DIFFERENTIAL DRIVE!
HOW ABOUT MAINTENANCE?
SNAP THE LATCH AND LIFT OFF THE COVERS—YOU DON'T EVEN TAKE THE MOTOR OUT TO GET AT THE BRUSHES, AND THE P.M. BRAKE HAS A SIMPLE SCREW ADJUSTMENT
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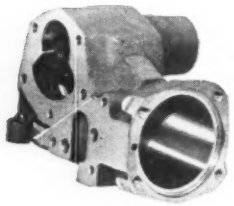
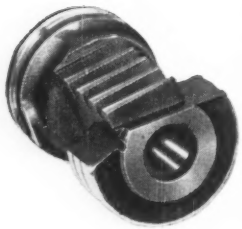
To secure low-cost, final stock removal, that generates accuracy and functional surface characteristics in a variety of bore conditions, a leading manufacturer of power steering assemblies uses Microhoning. Here are details concerning types of bores and stock removal results obtained by using Micromatic "Know How"—



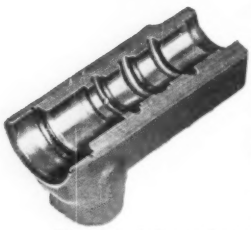
STEERING GEAR HOUSING—Microhoning consistently corrects cumulative inaccuracies of preceding operations—reduces scrap—permits faster boring—cuts boring tool sharpenings—lowers down-time and tool costs.

Material: Soft Malleable Iron
Bore: 3.125"D x 6.93"L (Ported bore with ¼" relief at blind end)
Stock Removal: .002"
Finish: 50 Microinches RMS
Microhoning Cycle: 18 sec.
Preceding Operation: Boring



PISTON RACK—Microhoning answers the need for a final stock removal process that generates a controlled surface finish in the bore of this leaded steel part. Microhoned surface (cross hatch) prevents oil leakage and holds to a minimum the wear of seal that operates in the bore.

Material: Leaded Steel (Rockwell 62 "C")
Bore: .875"D x 3"L
Stock Removal: .005"
Finish: 20 Microinches RMS
Microhoning Cycle: 20 sec.
Preceding Operation: Boring and H.T.



VALVE HOUSING—Microhoning consistently holds size and geometric accuracy—meets stringent surface requirements—assures alignment of four lands in bore. Thus, there is no leakage of oil around control valve which is selectively fitted to its housing.

Material: Cast Iron
Bore: .770"D x 2.18"L (Interrupted)
Stock Removal: .0025"
Tolerances: Size .0005"
Roundness .0001"
Straightness .0001"
Finish: 10 Microinches RMS
Microhoning Cycle: 12 sec.
Preceding Operation: Boring

The principles and application of Microhoning are explained in a 30-minute, 16mm, sound movie, "Progress in Precision" . . . available at your request.

☐ Please send me "Progress in Precision" in time for showing on _____ (date).
☐ Please have a Micromatic Field Engineer call.
☐ Please send Microhoning literature and case histories.

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show an abandonment or lack of diligence may result in the award of a patent to the 'second inventor,' who conceived the invention later but was more diligent in reducing it to practice."

The author is a graduate electric engineer and a patent attorney who has served on the staff of Bell Telephone Laboratories.

Backing up the salesman

PERSUASION FOR PROFIT *by Nicholas Samstag. University of Oklahoma Press, Norman, Okla., 224 pages, $3.75.*

There are two types of persuasion for profit: personal selling and promotion or group persuasion. This book deals with the latter, using the term "promotion" broadly to encompass advertising, merchandising, and public relations, as well as sales promotion in the usual sense.

Mr. Samstag, who has spent more than 30 years in the field, believes that any marketing situation offers more promotion opportunities than the promotion man can, in practice, exploit. His book is designed to show how more of these opportunities can be uncovered and utilized. Particularly valuable to practitioners will be his chapter on seventeen possible promotion strategies, with examples of their successful application. Both promotion men and their bosses will be interested in Mr. Samstag's ideas on the qualifications needed for the job, and the compensation it offers.

MOTIVATION RESEARCH AND MARKETING MANAGEMENT *by Joseph W. Newman. Harvard University, Graduate School of Business Administration, Division of Research, Soldiers Field, Boston 63, 539 pages, $7.50.*

Professor Newman of the Harvard Business School, who has been investigating motivation research since 1954, here presents a straightforward account of its techniques and what they can be expected to accomplish for the marketing executive. Case study materials, including the actual questionnaires used, are included.

To the general public, the book will be less interesting than Vance Packard's *The Hidden Persuaders*, which exploits the more sensational aspects of motivational research. To the business man who is eager to keep abreast of modern marketing methods, it will be more interesting because of its emphasis on factual explanation of the techniques.

"An era of greatly expanded cooperative efforts by behavioral scientists [psychologists, sociologists, and so on] lies ahead," the author believes. "With it will come the development of improved concepts for marketing; more effective research approaches; an expansion in the use of research, especially in a creative role; changes in the makeup of research groups; and changes in the character of the schooling considered appropriate for the prospective marketer."

ADVERTISING AND MARKETING TO YOUNG PEOPLE *by Eugene Gilbert. Printers' Ink Books, 100 Garfield Ave., New London, Conn., 392 pages, $7.50.*

Mr. Gilbert is president of the Gilbert Youth Research organization, which has conducted more than 1,900 studies of various aspects of the youth market, and this book presents a summary of the findings. There is data on the media that will reach age groups from under 12 to the early 20's, on the promotion and advertising themes that appeal to them, and on the extent of their influences on purchases.

Briefer booknotes

FASTENERS HANDBOOK *by Julius Soled. Reinhold Publishing Corporation, 430 Park Ave., New York 22, 438 pages, $12.50.* Detailed data on currently available fasteners, illustrated with photographs and drawings. In each case, the name of at least one manufacturer is given.

MAKING THE MOST OF YOUR ESTATE: A GUIDE FOR THE SALARIED MAN *by Earl S. MacNeill. Harper & Brothers, 49 East 33 St., New York 16, 190 pages, $3.50.* Wills, trust funds, gifts, and how they work out in practice.

CONCISE GUIDE TO PLASTICS *by Herbert R. Simonds. Reinhold Publishing Corporation, 430 Park Ave., New York 22, 330 pages, $6.95.* Properties, applications, prices, and other data on commercially available plastics, with a chapter on future possibilities.

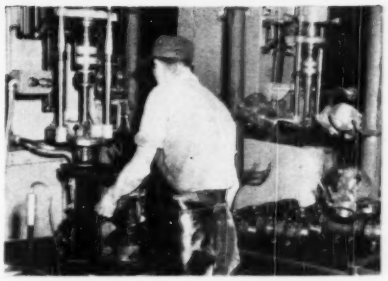
MARKETING'S ROLE IN SCIENTIFIC MANAGEMENT *edited by Robert L. Clewett. American Marketing Association, 27 East Monroe St., Chicago 3, 631 pages (paper covers), $3 to members, $5 to nonmembers.* Proceedings of the Association's 39th National Conference held in Detroit last June. Includes papers on sales planning and forecasting, automatic data processing, marketing research, sales compensation, pricing, advertising, and product planning and development.

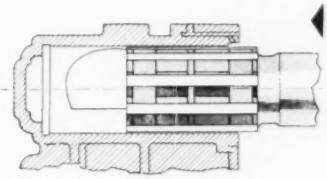
HOW TO MAKE MONEY MAKE MONEY *by Henry Gellermann. Thomas Y. Crowell Company, 432 Fourth Ave., New York 16, 319 pages, $4.50.* Advice on the stock market, including descriptions of the various types of securities available and of the mechanics of investing.

How MICROHONING

Cuts Costs—Generates Accuracy—Speeds Production of Interrupted, Blind-End Bores

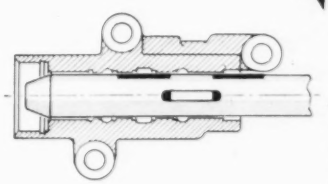
Shown are two Microhoning machines that are used in the plant of a leading manufacturer of automotive power steering assemblies. Machines are equipped with automatic stone feed and stonewear compensating mechanisms, and automatic sizing controls. A two-position rotary fixture is interlocked with machine controls for fully automatic index cycle. The following applications tell more of the "how".





STEERING GEAR HOUSING—In Microhoning the ported, blind-end bore of steering gear housing a nine-stone tool is used. At least six of nine stones are in contact with bore surface when tool passes over irregularly shaped port. Removing .002" of stock from 3.125"D x 6.93"L bore in 18 seconds, Microhoning generates final accuracies and a controlled finish of 50 microinches as specified.

PISTON RACK—In 20 seconds, Microhoning removes .005" of stock from .875"D x 3"L open end leaded steel bore of piston rack. Self-sharpening abrasives assure a consistent generation of specified surface finish of 20 microinches.



VALVE HOUSING—Microhoning tool used for final stock removal in bore of valve housing has one bank of stones and two banks of plastic guides—three stones or guides in each bank. Guides act as tool pilots and stabilizers in interrupted bore—prevent overcutting at edges of lands—assure straight bore by keeping tool aligned. Self-dressing abrasives consistently generate geometric accuracy of .0001" and surface finish of 10 microinches.

Microhoning economically removes stock—corrects cumulative inaccuracies of preceding operations—reduces scrap—permits faster boring—lowers machine tool downtime and maintenance to cut costs and speed production.

Send Coupon for Complete Information

Learn how Microhoning will give efficient stock removal, closer tolerances, accurate alignment and functional surfaces.

☐ Please have a Micromatic Field Engineer call.
☐ Please send Micromatic literature and case histories.

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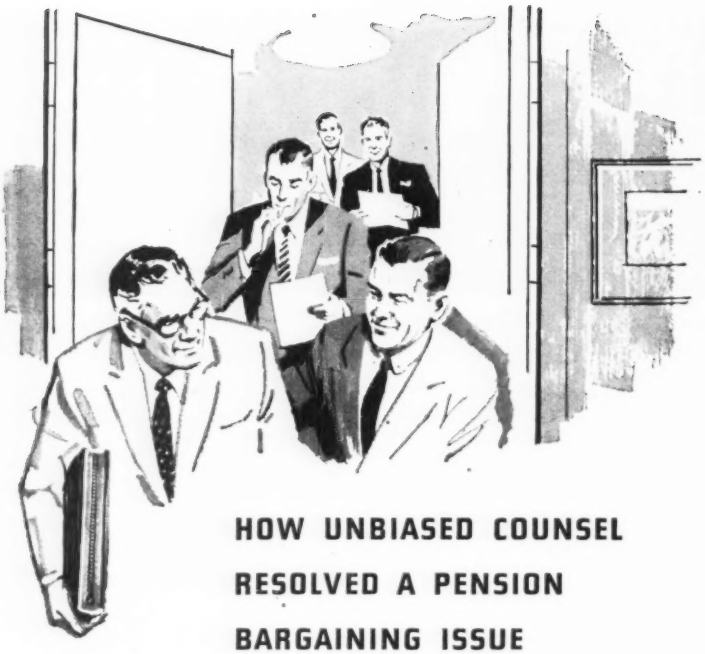

HOW UNBIASED COUNSEL RESOLVED A PENSION BARGAINING ISSUE

The company felt it couldn't afford an employee retirement program. But the union was insistent. To bargain on an informed basis, the company retained Marsh & McLennan to make an impartial analysis.

Our pension and actuarial specialists found that the company had been misled by unfamiliarity with modern pension developments. Applying professional knowledge and experience, our staff was able to set forth a choice of several different types of plan, each well within the company's means. It was a welcome revelation to management. Later, the chosen plan was favorably received at the bargaining table, where Marsh & McLennan again provided impartial advice. A touchy employee relations problem was solved to the extraordinary satisfaction of all concerned.

This simplified story relates but one application of Marsh & McLennan pension consulting service to business and industry nationwide. We operate as unbiased actuarial consultants on a fee basis, bringing to your problem years of experience with all types of pension and profit sharing programs. There is no obligation in a preliminary discussion, and we will welcome your inquiry.

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YOUR FINANCIAL PUBLIC

continued from page 50

World War II, many annual reports either said as little as possible by design, or were prepared by the accounting department and treasurer's office, subject to review by corporate counsel. At best, the resulting document was usually incredibly dull for the layman and generally incomprehensible to all but the expert. By contrast, many of today's annual reports are reasonably informative, even to the layman.

An indication of the improvement can be found in the Opinion Research Corporation's continuing study of the practices of 250 representative corporations. For example, over a fifteen-year period, the proportion of companies that included a one-page highlight summary has risen from about one in nine to four in five; almost all companies now present comparative figures for two or more years as against three-fifths formerly; charts are now employed in four-fifths of the reports compared to one-third earlier; and approximately two out of every three presidents or board chairman are now willing to commit themselves on future prospects, as against a little over one-fourth in the past. Although no hard and fast standards of taste can be applied, the consensus is that the general run of annual reports has improved significantly in format, typography, and over-all attractiveness since the early postwar years.

Needed: Complete Information

On the other hand, an examination of the daily flow of corporate information over the analyst's or financial editor's desk will show how many managements are failing to realize the kind and quality of information demanded by members of the financial community, who are in the spot to do a company the most good.

The majority of inadequate reports fail to explain what happened, why it happened, what its effect has been on current operations, and how it can influence future prospects. More frequently, failure to provide this information stems not from reluctance but from managerial inarticulateness and unskillful preparation of the actual communication. Of course, there are cases where management may occasionally try to omit some pertinent fact. Obviously, such tactics inspire

no confidence and win no friends in the financial community. Whatever the censored item, it is almost certain to come out somewhere, if only in the notes to financial statements in the next annual report.

As for periods of temporary adversity, which may strike any company, experience has convincingly demonstrated that the support of stockholders and the financial community is best won and kept by laying the facts on the table as soon as they are known to management.

Case History of a Report

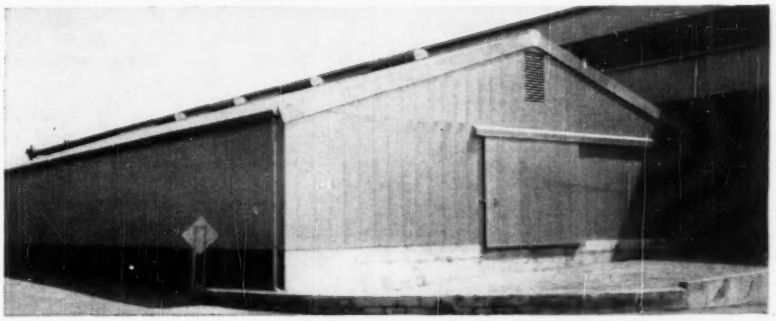
Annual reports have their share of such shortcomings, but nowhere near as many as most interim reports. Consequently, to illustrate the more common errors of omission, here is a representative sample of an all-too-common type of nine-month report (issued in this case by a hypothetical corporation):

> Operations for the year's first nine months have been generally satisfactory, although earnings were below those for the corresponding period of the preceding year, due primarily to expenses incurred in the activation of a new facility. Net income for the nine months amounted to $816,000, compared with $1,025,000 a year earlier. This was equivalent to 82 cents per share as against $1.03 per share for the same months of the preceding year. Profit before taxes was $1,700,000 as compared with $2,000,000 for the previous year. Net sales for the current year's first three quarters were $21,000,000 as compared with $20,000,000 a year earlier.

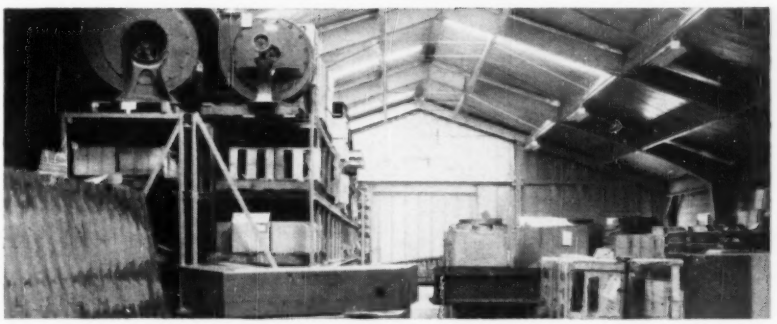
This tells the reader something, but not very much. However, some simple calculations will raise a number of questions to which the analyst undoubtedly will want answers. Why did sales go up around 5 per cent? Why did profit before taxes decline on a rise in sales? Why did net income, after taxes, decrease 20 per cent on a 15 per cent drop in pre-tax profit? All that is known at this point is that earnings are down because of the cost of a new facility. On the whole, we conclude, the company isn't doing so well.

But the picture changes materially with the addition of the following facts: Pre-tax profits for the first six months were affected by $250,000 of extraordinary expense arising from the activation of the new facility, but charges from this source were negligible in the third quarter. Moreover, profit before taxes for the previous year included a nonrecurring item of $100,000 from the sale of an asset no

Owner says: "We needed this building fast."



Record shows: 5000-square-foot Armco Building ordered, erected and in service in 7 weeks.



The Kirk & Blum Manufacturing Company, Cincinnati, Ohio, moved into their new 50′ x 100′ Armco Building just 7 weeks after ordering it. The record reads: building ordered October 11, delivered November 9, in use December 1.

Fast construction, the Armco way, saves money and lets you move in quickly. Interlocking panels come ready for easy, economical assembly. They lock together to form a tight weatherseal. And if desired, standard materials can be used to insulate or completely finish interiors. There is nothing to rot, warp, crack or burn—maintenance costs are practically eliminated.

Armco Buildings are available in more than 5000 sizes, from 28 to over 100,000 square feet, with clear-span widths up to 100 feet.

Before you make a decision on your store, office, warehouse, shop, manufacturing plant, sports arena or other business building, be sure to get the full story on Armco Steel Buildings. Just mail the coupon.

Armco Drainage & Metal Products, Inc., 58 Curtis Street, Middletown, Ohio

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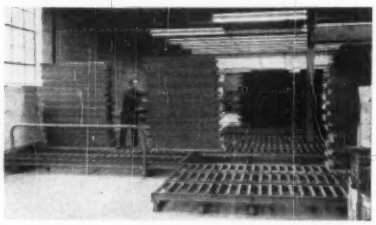
...move it faster for less cost

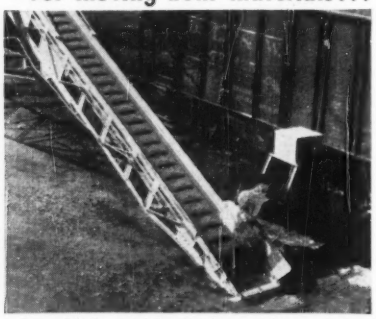
▼ For moving cartons, boxes, pans, bags, bundles, etc....

Cartons move quickly from receiving area to storeroom on this line made up of Farquhar Gravity and Model 536 Power Belt Conveyors.



Boxboard moves from warehouse to live storage on this simple and inexpensive Farquhar Roller Type Gravity Conveyor line.

▼ For moving bulk materials...



Tons of bulk materials move from receiving area to the plant over this Farquhar Car Unloader and Bulk Conveyor system.

▲ Beat rising costs with Farquhar Conveyors.

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The Oliver Corporation
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SCORE CARD FOR FINANCIAL PUBLIC RELATIONS

How is your company keeping up in the competition for the attention of the financial public? Here are some key questions that will help you score your performance.

Are financial public relations considered an important top-management function, and do you have qualified personnel to handle details?

Do your communications to stockholders and others report adequately *what* happened, *when*, and *why*, and explain its significance for present and future operations?

Do you report bad news as promptly and fully as good?

Do you issue quarterly financial reports? If so, are they as informative about *what*, *when*, and *why* as your annual report? Do you issue special reports when events demand them?

Can the average middle-aged stockholder read your interim reports without eyestrain?

Do you make an orderly, businesslike attempt to keep the financial community informed on corporate developments?

Do you keep in mind that five inches of publicity on the "broad tape" is often worth a thousand lines scattered through the press?

Do your direct mailings to stockholders and investment houses include all pertinent information on interim-period performance and the like?

Do you and your associates make an organized effort to maintain personal contact with the financial community?

longer needed in the business. Finally, with a tax credit resulting from prior years' losses, profits for the earlier year were not taxable at the full 52 per cent rate, but no similar credit was applicable to the current year's nine-month results. Once all these items are in the record, the nine-month decline in earnings is seen in a new and less discouraging light.

The situation might conceivably be even more encouraging if third-quarter results were examined separately. Here we might find sales of $8,000,000 as against $7,000,000 a year earlier, with the contributions of the newly activated facility principally responsible for the 14 per cent rise in sales. Further, the third-quarter increase of $1,000,000 equaled the entire rise in sales for the nine-month period. Higher sales and the elimination of nonrecurring expense, in turn, raised the pre-tax profit of $700,000 to about the level of a year earlier, and net income, after application of the 52 per cent tax rate, amounted to $336,000, or 34 cents per common share, as against $350,000, or 35 cents per share on the 1,000,000 shares currently outstanding for the same months of the previous year. Now, except for outlook, the picture is reasonably complete. Our company seems on the way to getting out of the woods.

Interim Advantages

Obviously, this example is exaggerated to introduce as many common failings as possible. However, any analyst or skilled financial reporter can add to the list of too-usual mistakes—e.g., omission of the number of shares of stock used for an acquisition, reasons for new financing, and changes in depreciation, plus the tendency to oversell the potential sales and earnings of new products. It is no wonder, therefore, that roughly 60 per cent of analysts interviewed in a survey several years ago expressed the opinion that most companies do not give enough information in their interim statements (the figure was 70 per cent among analysts in New York City).

This is unfortunate, because the interim financial statements are just as important as the more glamorous annual report, and often, more so.

There are several reasons for this. For instance, because most corporate fiscal years end on December 31, the majority of annual reports reach the financial community between mid-February and the end of March. During this period of about six weeks, the average analyst's desk is literally piled high with incoming reports. Of course, only a small percentage of them can be thoroughly read. These, obviously, will most likely be those of the companies with which the analyst is already familiar and in which he has an interest. The others will be sent to the library and may or may not be read later.

Tell Your Story Often

Another reason for not overemphasizing the importance of the annual report is that much of this twelve-month statement is corroborative rather than new information. The acquisition that was made in March, for instance, was reported many months ago and is well known. The debentures placed in May are old hat. The dividends paid and declared are already a matter of record. In many cases, it will have been possible to approximate year-end results on the basis of interim financial statements, so that even the audited income statement may not reveal anything startlingly new. None of this detracts from the annual report as an absolutely essential summary document. But it does put in sharp focus the great importance of reporting the affairs of the company in substantial detail at more frequent intervals—both in quarterly financial reports and special communications, when some major development merits it.

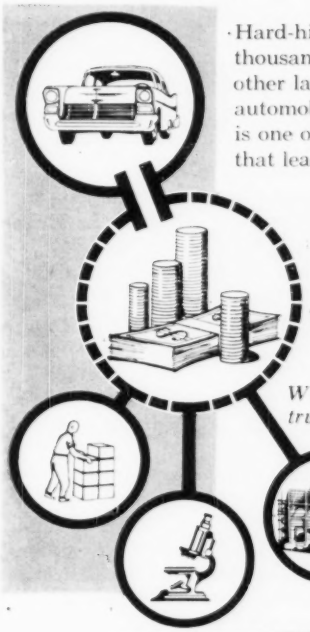
Business affairs often move so rapidly that, to be useful to shareholders or analysts, results of operations should be reported on a quarterly basis—accompanied, of course, by appropriate explanations and interpretations. Nevertheless, both in quality and in content, the quarterly report is currently the stepchild of stockholder and financial relations.

Unhappily, the popular size for quarterly reports—four small, crowded pages—often makes the reports uninviting as well as easy to misplace. And there is rarely room for a meaningful explanation of what

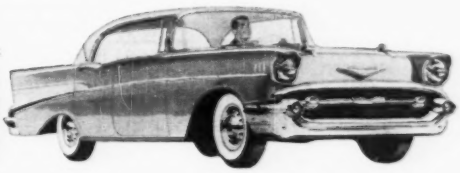
auto leasing from WHEELS does not cost Pfizer less

BUT IT SAVES MORE!

Chas Pfizer & Co., one of America's largest, most respected pharmaceutical and chemical manufacturers, leases over 600 automobiles from WHEELS Inc. This *saves valuable Pfizer cash* for inventory, for expansion, for working capital. Pfizer knows that leasing from Wheels may not cost less than ownership, but they are positive that it *saves more!*



Hard-hitting Pfizer salesmen make their thousands of daily calls in a new Chevrolet or other late-model, perfectly maintained Wheels automobile. Pfizer, a Wheels client for ten years, is one of hundreds of nationally-famous firms that lease vehicles from Wheels on a regular basis.



Wheels Inc. leases more than 9,000 cars and trucks to American business on programs designed to fit individual needs.

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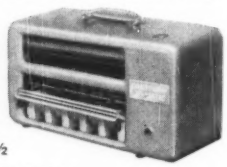

• Least expensive automatic. Weighs only 12 lbs. Takes ½ the space of a typewriter. Write for folder.

Contoura-Matic

F. G. Ludwig, Inc., 1300 Coulter St., Old Saybrook, Conn.

has happened and why. If the same skill and imagination that have done so much to improve annual reports were applied to the interim statements, financial public relations would be greatly improved.

Effective Communication Avenues

Thousands of corporations compete for space on the financial pages of the daily press. Since most of their earnings statements are issued at about the same time, competition for mention then becomes even more severe. Space allocated to the financial section of even the largest metropolitan newspapers is rigidly limited, and available editorial space is often further restricted by the last-minute insertion of financial advertising.

Consequently, the hazards of trying to secure coverage in the public press are both great and capricious, for any last-minute development can completely upset the apple cart. A study made several years ago of the press in the nation's fourteen most important financial centers revealed that more than 90 per cent of the available space on financial pages was used up by market reports, tabular listings of earnings, dividend sections, and general comment. The inches for company news stories were, to say the least, limited. In fact, only a few general papers, such as *The New York Times*, the *Herald Tribune*, and Chicago *Tribune*, devoted any considerable number of pages to financial affairs. Recent spot checks have confirmed this general conclusion.

In the face of these obstacles, it is obvious that widespread mailings to the press are costly and likely to be futile.

Geographical considerations will, of course, affect strategy, but for general financial publicity, the number of primary targets is limited. Among the principal ones are the Dow Jones ticker, which supplies a constant flow of pertinent information to the financial community and many important newspapers throughout the nation; the *Wall Street Journal*, with editions in New York, Chicago, Los Angeles, Dallas, and Washington; the leading New York papers with strong financial sections; and the press services—Associated Press, United Press, and International News Service. Add to these the statistical services—Moody's, Standard & Poor's, and Fitch—which should be kept fully informed, even on preferred-dividend declarations and similar items usually disregarded by the press, for these services are standard reference tools for the financial community.

But most important, there is no substitute for direct mailings of annual, interim, and other pertinent reports to appropriate members of the investment group and to stockholders. This method alone makes it reasonably certain that the message will reach the right people. And because of the uncertainties of newspaper coverage, it also constitutes the only guarantee that *all* the pertinent information will be received by the right people.

Personal Contact

Security analysts, in particular, like to meet with and talk to company presidents and other top officials. So does the financial press. One reason, most assuredly, is the wish to get information "straight from the horse's mouth." More important, however, is the desire to appraise management face to face, to gain at least an impression of what makes it tick, for management continues to be the most highly rated factor affecting investment opinion.

Appearances before analyst societies are highly desirable if they can be arranged. Special luncheons for hand-picked groups of analysts also are helpful. However, the problem of continuing year-round contacts remains. For the very large corporation, this can probably be handled by its financial public relations staff, plus certain fiscal officers. For other companies, small ones as well as many that are the largest in their industries, the task is more difficult unless a qualified specialist, whose services include such contacts, is retained. The executive time and expense involved in doing a satisfactory job become prohibitive. But, failing all else, the president and chief fiscal officer should give some of their time to maintaining such contacts—most desirably, under expert guidance. In addition, an "open-door" policy on the part of top management can help a good deal.

These suggestions apply to all types and sizes of publicly owned corporations. Experience has shown that, in the main, they face common problems and tend to fall into gen-

erally common errors. Some special problems, however, do exist, along with special opportunities. Unlisted companies, for example, may find it considerably more difficult to secure newspaper space than listed companies. On the other hand, dealers in over-the-counter securities are, on the whole, glad to mail out company information to their customers because of limited resources for preparing their own write-ups. It should be remembered, however, that some of the nation's largest brokerage houses are among the largest traders in over-the-counter securities.

The task of the small concern, although difficult, is by no means insuperable. In the preparation of attractive and understandable annual and interim reports, clear thinking, plus clear writing, plus a dash of ingenuity, can go far. Reports typed on an electric typewriter and reproduced by offset can produce attractive and easily readable communications. If the company is large enough to have stirred up some investment interest, even though the interest may be limited geographically or to a few financial houses, these could provide the foundation for a mailing list and for limited, but useful, personal contact. The statistical services are interested in as complete corporate coverage as possible and consequently want information from any publicly owned concern.

But in large or small companies, getting across to your financial public is primarily the job of finding out just who your public is and then keeping it informed of your company's activities through personal meetings and well-planned, informative communications. END

"...and Thursday is the Advisory Board Meeting, Miss Lowe—not the 'bull session'."

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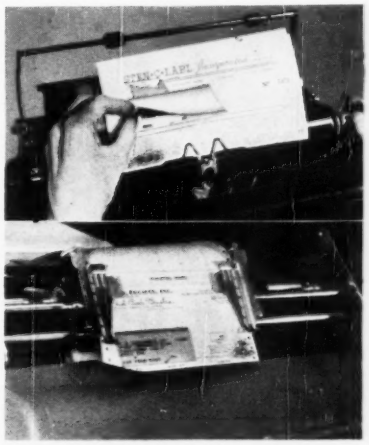

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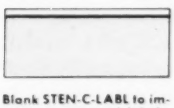

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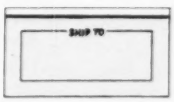

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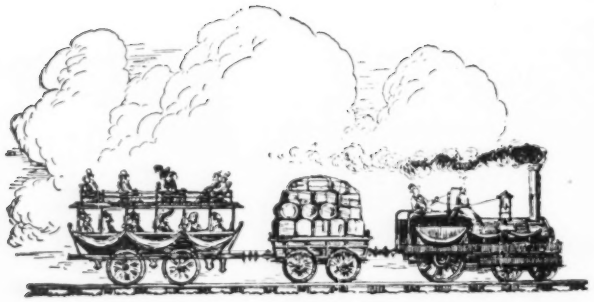
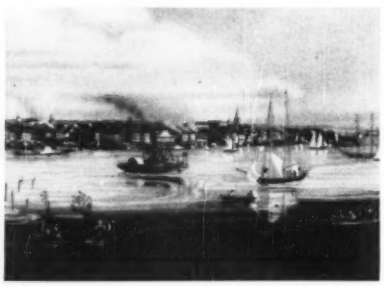


INDUSTRIAL TRADITIONS *and the* AMERICAN FUTURE

SEVERAL STATES, notably Vermont and Arizona, have superb magazines whose sphere of influence goes far beyond state borders and native loyalties. Nature and folklore are their main editorial themes, but the lore of industry, agriculture, and transportation is finding a growing place in their pages. And deservedly so.

Vermont is a mecca of writers, painters, and musicians. But it also has a tradition of quarrying and stone-cutting that is deeply rooted in a past century, and its marble and granite industries are lively trades today.

Arizona, an infant among the states, but with a bilingual culture older than Vermont's, can claim the grandeur of the Grand Canyon and



NEW YORK, 1839

the wonder and mystery of the Mogollon Rim. But it also has an industrial tradition in the history of its mines and smelters that is as fascinating as the journeys of Coronado or the gun battles with the Apaches. The struggle of agricultural settlers against the encroaching desert also has its romantic aspects, especially in the channeling of the snowfall on the mountains to help the production of Pima cotton or citrus fruit or beef cattle.

Every state has its folklore of industry and trade, but the talent of the reporting and the devotion of the historians vary widely.

The first naval engagement of the American Revolution took place in the narrow sleeve of water off Machias, Maine. The British needed Maine oaks for ships and barracks at Boston. Tories working for General Gage demanded lumber. With a small boatload of salt-hay farmers armed with pitchforks, and a few lumbermen with muskets, Jeremiah O'Brien, woodsman and sailor, temporarily halted the supply by winning the first Yankee victory on water.

One of the forgotten episodes of ocean transport was the sailing of huge rafts of timber from the New England coast in the Colonial period. Rigged with sails, these fish-shaped rafts, as long as modern ocean liners, crossed the Atlantic and were eventually beached and broken up on the English Channel coast. Lumber rafts still move through our lakes and rivers and along the coast to sawmills and pulp shredders, but sending a sail-driven convoy of rafts across the ocean would be a huge risk even for modern navigators.

States southeast from Virginia, around Florida and the Gulf, have been identified for centuries with the production of rosin, turpentine, tars, and the oils collectively termed "naval stores." Many a romantic sea story has been written around the routine exploits of the mariners who

CHICAGO, 1833

traveled the famous triangle of commerce from European ports to the Colonial ports of America to the West Indies and back to Europe. And the pine barrens of the East Coast still produce vast quantities of naval stores.

Tobacco and cotton have been both servants and tyrants to the Southern states. They have also been primary economic influences behind some of the social problems out of which much of the South's history, tradition, poetry, and drama has grown. No longer, however, are they tyrants over the economy of the Southeast. Alabama, once a one-crop state, now boasts steel, lumber, cattle, nuts, and fruit. North Carolina has followed up its tradition

of handicraft in home furnishings, and now is a leader in modern and period furniture design and manufacture. Near Asheville, the hand looms still produce wool cloth in the tradition of the mountain weavers whose forebears came from the highlands and the coastal islands of Scotland. At the same time, the great

LOS ANGELES, 1853

looms of the cities along the Piedmont turn out a vast yardage of cotton and synthetics for a huge national market.

Rolling back the wilderness was essentially a problem in transport and communication. The unknown and the unconquered are always a temptation to man's curiosity, but the primary westward urge of the pioneers, and of the homesteaders who followed them, was economic and social. The influence of the inland waterways—especially the Erie Canal, which hooked up the Hudson River and Lake Champlain with the Great Lakes—gave New York good reason to call itself the Empire State. Nicknamed Governor Clinton's Ditch, the canal created a string of great cities, whose present industrial importance dims the memory of their days as ports of call for the mule-powered flotillas that gave literary incentive to Walter Edmonds and Carl Carmer.

When necessity commanded, the mind of man responded, and industry benefited by a continuing sequence of power inventions that rapidly converted this country from an import nation to a world power, with goods and credit to export to the whole globe. Industrial America, with trade moving over railways, highways, waterways, and airways, has a romantic tradition and a folklore—from Mike Fink, the giant boatman of the Ohio River trade, and Paul Bunyan, the Goliath of the lumber camps, to the more realistic concept of Casey Jones at the throttle of the fast freight. Now diesel takes the place of steam, and perhaps in a decade atomic power will move men and merchandise at a ton-mile cost that will make any remote area accessible for development of natural resources and dispersion of population and industrial activity.

Industry and commerce have had a part, too, in shaping the cultural identity of many cities in the United States. In Boston, we have the obvious example of how time can influence a community without altering the essential soul of the city. Against a heritage of early Puritan discipline and later Brahmin gage of social stature, Boston has experienced a series of waves of Irish, Slavic, and Italian immigrants, and has reluctantly, but nonetheless certainly, absorbed all these strains. Now it still maintains its educational superiority and its high level of intellectual achievement. And the Yankee mer-

ST. LOUIS, 1840

chant is still a power in Boston.

New York, in its topographical straitjacket, has created a physical identity in its skyline, but the city is a world of its own in which people are as conspicuous or remote as they choose. Here is the brain center of an industrial and financial universe, where management decisions touch every center of world trade. Here learning is as much of an industry as dressmaking, and thousands of little businesses compete and survive among the giants of Wall Street and Fifth Avenue.

Philadelphia has never outgrown the Quaker mind of William Penn—and this is said descriptively, not critically. It has also never outgrown, and perhaps never should outgrow, the pragmatic mind of Ben Franklin. It reflects the Colonial mind that confused the British, and it accepts the Palatinate Dutch tradition socially rather than aesthetically. Its devotion to the formal is symbolized by the endless rows of brick houses. But the City of Brotherly Love is also a center of transport and manufacturing.

Chicago has had many critics, from Carl Sandburg, who called it "hog butcher to the world," to the architect Louis Sullivan, whose Chicago buildings set a distinctive pattern in design and attracted the attention of the world. Chicago is noisy, windy, and dusty, but it breathes the spirit of empire that made America great. Its slaughterhouse smells, its ghetto eyesores, and its gangsters are all part of a fading scene.

Detroit, the best-advertised city in America because it "put America on wheels," sits over the vast salt-mine tunnels of a forgotten ocean. But the people of Detroit, whose streets bear French and Indian labels to remind them of a forgotten culture, look to the Strait that gave the city its name and envision the great port that the St. Lawrence Canal will create for its industries. Detroit may yet evolve a personality and identity reminiscent of its past and worthy of its future.

San Francisco has more cultural sophistication and maturity than any other city on the West Coast. Blessed and handicapped by its hills, it has converted these obstacles into assets. Its great bridge is a beautiful necklace for its superb harbor. Its citizens have the temper of a people emotionally secure and politically stable. They are quite unconcerned

NEW ORLEANS, 1841

by the rapid growth of other cities on the Pacific. The city's industries are stable, reflecting the equanimity of men who were not disturbed by an earthquake or discouraged by a holocaust.

Los Angeles has the emotional excitement of a child with a sense of

continued on page 104

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INSIDE INDUSTRY

New Methods, Materials, and Equipment

CUTTING UP: Wood is still one of the most important materials on the U.S. industrial scene, and it's coming in for its share of research, too. Here, a Baldwin strain-measuring system is supplying vital data for a sawmill-blade redesign project at the New York State University College of Forestry. Objective: to provide more usable lumber and fewer chips.

- *Updating Component Design*
- *Bringing Scientists to the Schools*
- *New Converter Prospects*
- *Facts from a Small-Business Survey*
- *Building-Block Design*
- *Things to Come*

Guidance from Polaris

Now that it is possible to predict an almost continuous across-the-board advance in technology, manufacturers can learn a lesson in the management of new projects from designers of the Navy's Polaris missile. Instead of planning each subsystem of the submarine-launched missile with existing components and materials, the engineers and scientists used components that are still on paper but that should be available by the time the missile goes into production. A much longer useful life for the intermediate-range ballistic weapon should result, according to George F. Metcalf, general manager of GE's Missile and Ordnance Systems Department, prime contractor for the fire-control section.

Polaris was planned according to an over-all time schedule, with each subsystem and component assigned its own deadline. Design management then forecast the technological development for each component, as of the required production date.

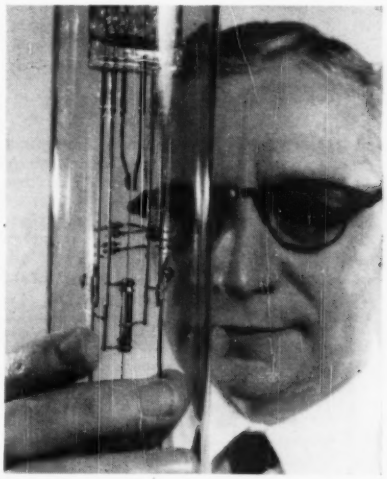
Paging tomorrow's scientists

With so much talk of how to regain technological leadership from the Soviets, it is gratifying to observe some signs that private industry is willing to pitch in and help do something to stimulate young people's interest in science. General Dynamics Corporation is now distributing a long-playing recording of a 30-minute lecture by famed nuclear physicist Edward Teller to 3,500 colleges and secondary schools. Dr. Teller discusses "The Size and Nature of the Universe" and "The Theory of Relativity."

The lack of science teachers is regarded as one of the major reasons for America's loss of scientific leadership. Although one recording isn't going to help directly to overcome the shortage, increased demand for science teachers is bound to speed solution of the problem. Certainly General Dynamic's idea is a good example of what can be done to interest youngsters in the physical sciences.

Heat into electricity

An experimental vacuum-tube-like device has been developed to convert heat directly into electricity. Only 8 per cent efficient at present, the converter has a potential efficiency of 30 per cent, which could make it significantly competitive with the conventional method of converting heat into electricity. Except for the limited number of great hydroelectric plants of the West and South, practically all electricity in the U.S. is generated by expensive rotating machinery, driven by heat.



Heat is directly converted into electricity in this experimental device held by G-E scientist-inventor, Dr. Volney C. Wilson.

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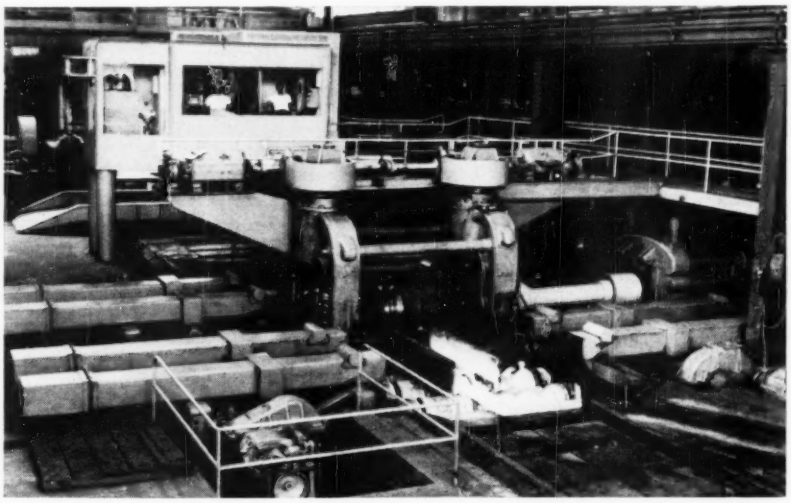
Conceived by Dr. Volney C. Wilson of General Electric Research Laboratories, the converter is still a laboratory item. GE has no present plans for commercial development.

The converters demonstrated to date resemble large, quart-size vacuum tubes. When the cathode is heated to about 2,500° F, large numbers of electrons are boiled out, just as in any vacuum tube. But Dr. Wilson has solved the problem of getting them to stick to the anode or collector. Just how this is accomplished was not revealed, but it is known that some gas fills the chamber. The voltage developed across the anode and cathode is quite low, however—in the vicinity of 1 volt.

Heat for the cathode could come from conventional fossil fuels, from nuclear reactions, or from the sun. Dr. Wilson suggested possible use of the converter as a "topper" for nuclear-power reactors to help meet peak loads.

Work on the converter is continuing. Since a solid-state analogue of practically all vacuum-tube devices has been developed (for example, the transistor for the vacuum-tube amplifier), hopes for some metallic device to convert heat into electricity are raised. The thermocouple is a metallic converter, but it produces very low currents.



FLATTENS SUPERALLOYS: This huge mill is the first in the U.S. to roll the extremely hard superalloys used in gas and high-pressure steam turbines. The mill has just gone into production at Latrobe Steel Company. The usual way to shape these steels is by forging.

Solving small-business problems

A surprising number of small businesses solve their technical problems by going directly to competitors for information. This is one of the interesting facts turned up in a survey of 500 small businesses conducted for the Department of Commerce by Herner, Meyer & Company.

The survey also shows that small textile firms lag behind their counterparts in the electrical and metalworking industries in ability to gather information and solve technical problems. This deficiency seems to be related to the smaller number of professionally trained people in textiles.

For a copy of the 21-page booklet, "How Small Firms Solve Problems and Keep Abreast of Technical Developments," write to Office of Technical Services, Department of Commerce, Washington 25, D.C.

"Modular" engine design

The latest fashion in engineering, the modular design concept, has evidently caught on in Europe. A German concern recently developed an industrial engine that can be equipped with four, six, or eight cylinders interchangeably, as needed. Inventory problems are reduced for users and distributors as well as for the manufacturer. Ilo-Werke G.m.b.h., a subsidiary of Rockwell Manufacturing Company, Pittsburgh.

Signs of the future

- Certain plastics are being investigated by a number of organizations for possible use in ballistic missiles. Although the terrific heat generated by atmospheric friction when a missile plunges back to earth would cause the plastics to burn, indications are they might retain their structural integrity long enough for the missile to complete its mission. Plastics have already been proved practical in cartridge cases for artillery shells. They can't be re-used, but they are considerably lighter than brass or steel cases.
- The problem of comfort heating of underground spaces—natural or man-made—is under study at the National Bureau of Standards.
- A Space Technology Laboratory has been established by Ramo-Woolbridge Corporation, Los Angeles.

—M.M.

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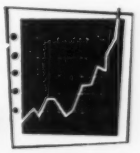

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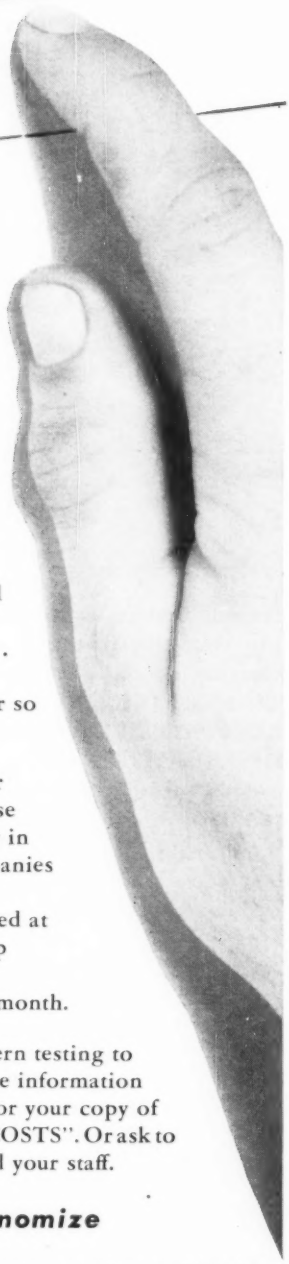

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DISTRIBUTION

Continued from page 43

a better system. Unlike basic advances in engineering or manufacturing, major improvements in distribution have been slow to win general acceptance.

It might be argued that this is because it is harder to change a distribution system than a factory. Even so, most manufacturers have not subjected their distribution operations to the same kind of careful scrutiny that they have applied to their manufacturing operations. And yet, this is precisely the approach that pays off.

Facing Up to an Overhaul

Most companies have long since learned that something more than tinkering is indicated when a plant is economically unsound. But many of these companies are still trying to "make do" with distribution systems that need to be overhauled and rebuilt. As a consequence, their competitive positions have been undermined. Such companies need to take a long, hard look at their present systems to decide whether they should reorganize the marketing department; change the basic product line; revise the physical distribution system; change existing policies on types and numbers of outlets utilized; or revise basic pricing policies.

How a distribution audit can establish the basis for a new distribution system has already been shown by the experience of the National Biscuit Company in organizing its new Special Products Division. Here is a case that will illustrate the benefits to be gained from restructuring an existing distribution system:

A leading grocery manufacturer asked a consulting organization to review plans for a new warehouse before they were let out for bids. A limited study quickly disclosed many inherent inefficiencies in the distribution system, and raised a number of questions about the size and location of existing warehouses.

Further study disclosed that handling, storing, and shipping methods could be improved to cut operating costs sharply. This led to the decision to embark on a long-range program for revising the company's entire physical distribution system. Plans originally submitted for the new warehouse were scrapped, and

new plans were developed for a prototype warehouse designed for the most efficient handling of materials. Product flow through the existing distribution system was analyzed to determine the proper size and location of warehouses, taking into account projected growth trends. Ultimately, the company's marketing department was reorganized, to clarify responsibility for the forward planning needed to achieve maximum distribution efficiency.

Many small companies, as well as giants like Monsanto, have made very effective use of the distribution-audit approach. A good example is the recent experience of Safety Industries, Inc. (DR&MI, May 1957, page 41), in plotting the profitable expansion of its product line.

Sizing Up Your Company

Any executive who has reason to think that his company's distribution system may not be fully efficient can quickly determine the seriousness of the situation by asking a few key questions:

How recently have we analyzed our product line?

Many companies have found, through analysis that their product lines were cluttered up with low-volume, low-profit items that could easily be eliminated without encountering serious objections from the trade. Such product-line simplification has helped to increase distribution efficiency by lowering inventories, eliminating costly records, and making the sales promotion job less complicated.

What steps are we taking to gear our distribution system to the requirements of our markets?

During the past twenty years, new distribution channels, notably the supermarket, the discount house, and the shopping center, have made it essential for manufacturers to keep their distribution policies under continuous surveillance. Also, some sections of the country have grown much faster than others, making it necessary to realign sales territories and relocate field warehouses.

Have we made use of the most efficient methods?

New methods and facilities have created many opportunities for increasing distribution efficiency. Modern materials handling equipment has cut the field warehousing costs

6-FT. AISLES

Now you can have them . . .

without obsoleting your present racks or pallets

Only the RAYMOND Reach-Fork* makes it possible!

IT'S TRUE! The Raymond Reach-Fork is the only tiering truck that operates in 6-ft. aisles with existing warehouse equipment.

NO SPECIAL PALLETS or racks are required by the Reach-Fork for close-quarter operation. It operates from the aisle—does not straddle the bottom pallet. Its forks reach right into the rack to pick up or deposit load, extending 24" and back in seconds.

THE RAYMOND REACH-FORK can increase your storage capacity as much as 50%. Its light weight permits use on low-capacity elevators and floors. Ideal for loading truck trailers, boxcars because it stacks pallets closely—can be elevated 41" without increasing overall height. Reach-Fork is equipped with new Raymond power unit that opens like a book for fast, easy servicing. All parts housed behind hinged double doors—nothing under unit to inspect but the wheels. * PATENT NO 2,564,002

RAYMOND REACH-FORK
Electric Tiering Truck.
Capacity: 2,000 & 3,000 lbs.

THE TRUCK WITH THE "BOARDING HOUSE REACH"

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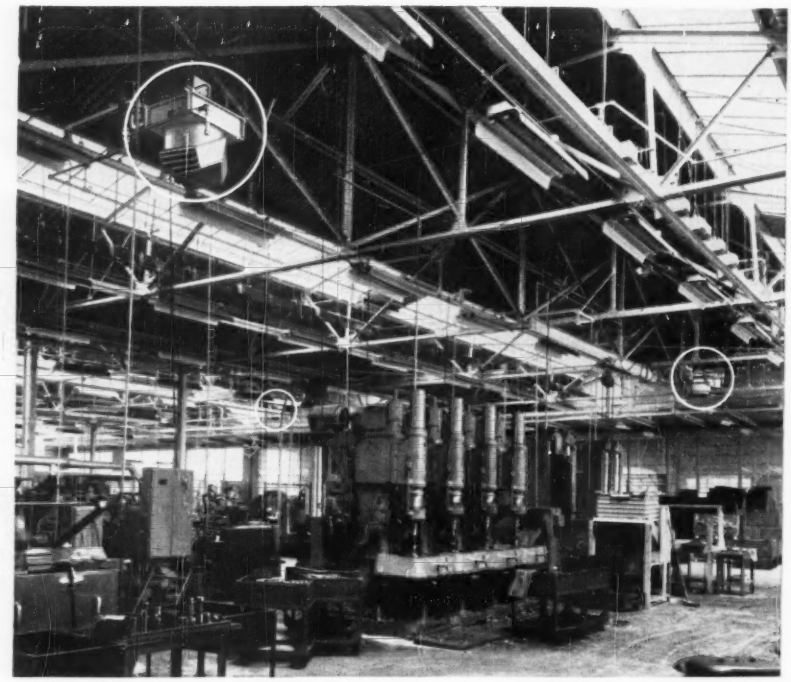

PROOF THAT UNIFORM HEAT DISTRIBUTION AIDS PRODUCTION

Revolving heat
laughs at obstacles!

Do you have the problem of getting uniform heat distribution in rooms where bulky machinery is installed?

Ordinary unit heaters with stationary discharge outlets are baffled by obstacles . . . the heated air piles up at the obstacle and the cold air beyond remains unmoved.

Now, look what happens when Wing *Revolving* Heaters are installed! The slowly revolving outlets keep the heated air moving constantly down, around, over and under, seeking out remote corners, warming up pockets of dead, damp, stagnant, cold air. The result . . . a uniform blanket of warm, live, gently moving heated air that keeps workers happy and productive.

Isn't this what *you* want? Why not write for a bulletin.

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DIVISION OF AERO SUPPLY MFG. CO. INC. In Europe: WANSON, Haren Nord, Brussels, Belgium

Wing
•REVOLVING•
UNIT HEATERS

FANS • UNIT HEATERS • DRAFT INDUCERS • BLOWERS • TURBINES

of many companies. New methods for processing orders and controlling inventories have opened the way to other gains in efficiency.

Because these developments have occurred in rapid succession, it has been necessary to weigh alternatives carefully to select the best combination of methods, and to guard against premature technological obsolescence.

Do we have an integrated system of management reports giving a clear picture of the trends in our distribution efficiency?

Distribution costs are too high in many companies because top management does not have a clear picture of the level and trend of distribution efficiency. Typical accounting reports do not provide such information. Standards need to be established in terms of physical units, rather than in terms of dollars. A measure for share-of-market position and for degree of market-coverage should also be available. This would enable management to see the results achieved by dollar expenditures for distribution as reflected in profit-and-loss statements.

What steps are we taking to boost efficiency among distribution personnel?

Many companies have attacked the problem of distribution efficiency from the standpoint of raising the individual efficiency of distribution employees. This is reflected in the increased attention given to selection and training methods and in the increased use of incentive compensation for salesmen. As competition grows keener, the value of a properly selected, well-trained, and highly motivated sales force will mount.

How certain are we that our advertising and sales promotion efforts are focused on the areas of greatest potential?

Advertising and promotion costs have gone up so fast in the past ten years that more and more companies are considering ways to allocate them geographically. Few companies, however, know whether their advertising and promotion expenditures are in proper relation to the potential markets they are cultivating. Without such information, it is easy to spend substantial sums in areas where the market potential is relatively low, or in high-potential areas where a company's distribution system is not adequate to capitalize on

the consumer demand that is created.

When a company is making an organized effort to keep its distribution system fully competitive, answers to such questions should be readily available. When they are not, the chances are the company is paying too much for distribution.

As background for these questions, the information called for in the checklist on page 80 will help identify the major problem areas and cost elements in the distribution system. When more than one product line is involved, a separate analysis should be made for each line, even though a common system of distribution is used for all lines. This may bring to light basically different requirements that may offer important opportunities to increase distribution efficiency.

How to Get at the Facts

There are so many facets to most distribution systems that any distribution audit must be carefully planned. For the purpose of such an analysis is to produce a clear picture of the broad opportunities for distribution improvement, their interrelationship, and their relative importance.

Because the kinds of decisions called for at the conclusion of such a study usually must be made by top management, it is important that those responsible for making the audit report directly to a member of top management. They will thus have the authority to cut across functional lines within the company in obtaining essential information.

Some companies prefer to use their own staffs to conduct a distribution audit. Others have found it good practice to call in outside consultants. In either case, those responsible for making the audit should have a thorough knowledge of distribution methods and practices in the industry or industries concerned. They should also be freed from all continuing job responsibilities for the duration of the audit, for they will have to give full time to the study if it is to be completed within a reasonable time. Finally, those chosen for the task should be able to think in top-management terms and to command the attention and interest of executives who must be consulted about the

Look back and learn
when looking ahead to plan . . .

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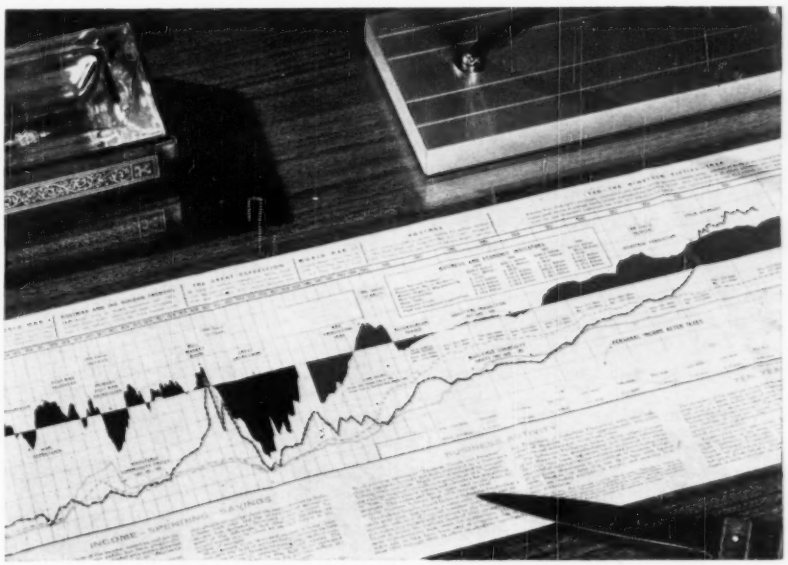

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study or informed about the results.

Once responsibility for the audit has been clearly assigned, three steps should be taken to establish its scope and basic objectives: (1) define the over-all importance of the distribution function; (2) determine the position of the company in its field; (3) appraise the major elements of strength and weakness in the company's distribution system.

In some industries, a company can have a relatively inefficient distribution system and still secure a satisfactory share of the market, based on its control of scarce raw materials, the caliber of its technical personnel, or the unusual quality of its product. In other industries, however, the major difference among competitors is the total impact of advertising, or the speed and reliability of customer service. In such industries, the amount that must be spent for distribution activities is likely to represent a sizable share of a company's gross sales.

No Cost Yardsticks

Some years ago a study by the Association of National Advertisers disclosed that distribution costs vary widely from industry to industry. But no study has yet established average levels of distribution cost by industry, and there is no yardstick a company can use to determine whether distribution costs should be 5 per cent or 50 per cent of gross sales. For the present, executive judgment will have to determine what level of distribution cost is essential to most profitable operation.

Even within the same industry distribution costs often vary widely among competitors, reflecting basic differences in operating methods. For example, the distribution costs of Sears Roebuck for their major appliances have traditionally been substantially below those of such companies as General Motors and General Electric. Sears distributes its appliances exclusively through its own retail outlets, which are concentrated in the major centers of population. General Motors and General Electric, on the other hand, have maintained distribution systems that blanket the entire country, to insure the availability of their appliances in all market areas.

The bigger the share of the sales dollar that goes for distribution, the more attention can profitably be de-

ROAD MAP FOR DISTRIBUTION ANALYSIS

Chances are you've never stopped to consider the range of expenses that are covered by the two words "distribution costs." But that's a necessary preliminary to a thoroughgoing analysis of your distribution set-up. Use this comprehensive checklist as a guide in getting the figures you will need:

SALES DOLLAR VOLUME
- Orders—shipments

DISTRIBUTION EXPENSE
- Percentage of sales orders—shipments

THE MARKET
- Dollar volume of industry sales
- Company share of industry (percentage)
- Position of industry on normal growth curve—bottom—middle—top

THE PRODUCT
- Pounds shipped—total
- Average dollar value per pound
- Damage in transit or storage
- Installation costs—total—charged to customers—absorbed
- Service costs—total—charged to customers—absorbed
- Number of items in product line—total—produced for inventory—produced to order only
- Value of finished-goods inventories—total—held at factory—held in the field

BUYING HABITS OF DIRECT ACCOUNTS
- Anticipate requirements
- Expect immediate delivery
- Other (specify)

DISTRIBUTION SYSTEM
- Direct accounts served (number and dollar volume of orders or shipments)—total—resale—wholesale—retail—user—other
- Number of accounts purchasing 85 per cent of total volume
- Number of accounts—urban areas—rural areas
- Number of field warehouses used
- Amount of field warehouse space (usable cu. ft.)
- Cost of operating field warehouse
- Amount spent for transportation—total—charged to customers—absorbed

ORDER HANDLING
- Number of orders entered—total—by salesmen—by phone—by mail
- Average value per order
- Number of back orders entered
- Number of invoices issued
- Amount spent for order handling
- Number of credits issued
- Value of returned goods
- Value of shipments—total—from factory to field warehouses—from factory direct to customers—from field warehouses
- Value of shipments—total—by rail—truck—mail—air—other

PROMOTION
- Dollar volume of direct sales cost—total—resale—user—other
- Selling compensation—total—paid to company salesmen—paid in commissions to jobbers, agents, and so on—other
- Number of company salesmen—total—contacting wholesalers—retailers—users
- Number of sales calls required—total—on wholesalers—on retailers—on users—other
- Time required for travel (days)
- Amount spent for: travel—entertainment—advertising—promotion (including dealer aids)

FINANCIAL TASK
- Average dollar volume of accounts receivable
- Average value of consigned stocks
- Average dollar volume of wholesaler or retailer inventory financing (floor planning)

CORRECTIVE ACTION CHECKLIST

- ___Improve coordination of production and sales
- ___Improve speed and reliability of order handling
- ___Make better use of salesmen's time
- ___Reduce amount of investment in inventories
- ___Reduce losses from damage in transit or storage
- ___Increase effectiveness of advertising expenditures
- ___Reduce cost of order handling
- ___Reduce delivery costs
- ___Other (specify)_____

voted to increasing distribution efficiency. This accounts for the fact that food and drug manufacturers have as a rule spent sizable sums for marketing research, and producers of heavy chemicals have spent little, particularly as compared with their expenditures for product research and development.

Checking Your Position

Once it is agreed that distribution costs are sizable enough to justify the cost of a detailed study, the next step in any distribution audit is to determine the relative position of the company with respect to its major competitors. Since distribution-cost information is closely held even in publicly owned businesses, it is often difficult to develop meaningful comparisons of distribution costs. However, when a company has made a careful study of its own operations, it should be able to determine the approximate distribution costs of its principal competitors through analysis of financial reports and other published statements that provide clues from time to time. Just such an approach first pointed up its competitive disadvantage in the dry-grocery field to the National Biscuit Company.

At this point, the strengths and weaknesses of the company's distribution system should be objectively analyzed. Such an appraisal requires good judgment, rather than detailed statistical data.

If, for example, a company has a well-disciplined sales force, capable of executing any sales campaign with dispatch, it has a distribution asset not possessed by all its competitors. If, on the other hand, the company has a reputation for slow delivery service, or if it has been selling largely to a class of trade that is declining in volume, these weaknesses may provide opportunities for profitable corrective action.

Because companies vary so widely in their methods of operation, it is difficult to develop a checklist that will have meaning in every company. Therefore, each company should develop its own. Such a checklist will help to identify the primary areas for a profitable distribution investigation.

During the past 50 years, great strides have been made in increasing distribution efficiency. But the results achieved do not match the

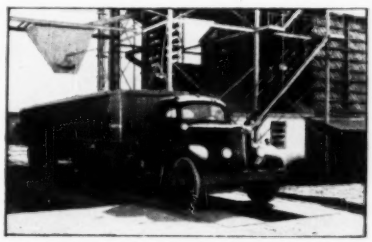
PLEASE, DON'T HANDLE THE MERCHANDISE!

by ANDREW T. BROWNE *Chief Engineer, Globe Hoist Company*

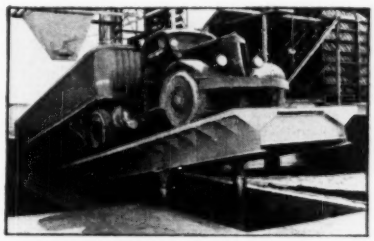
One of the major costs in a manufacturing operation is the handling of materials . . . picking them up, moving them from one place to another, then setting them down again. These steps often amount to from 20% to 50% of the direct labor charge! A careful study of your costs for handling materials around your factory will give you this answer: "DON'T HANDLE THE MERCHANDISE!"

The right handling equipment usually can reduce your costs substantially.

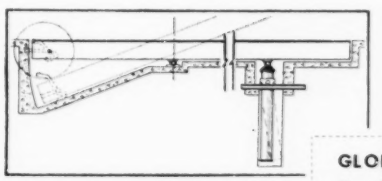
Unloading a truckload of oranges in a matter of seconds not only saves valuable time, but also delivers the fruit, untouched and unharmed, to the head of the processing line at Food Industries, Inc., Cocoa, Florida. A Globe hydraulic-powered tilting platform lift makes this possible.



ALL SET? Fruit-loaded tractor-trailer is positioned on platform of tilting-lift. Wheel chocks are in place.



AWAY THEY GO! With lift tilted to 20° incline, oranges spill gently out the back onto a moving conveyor belt.

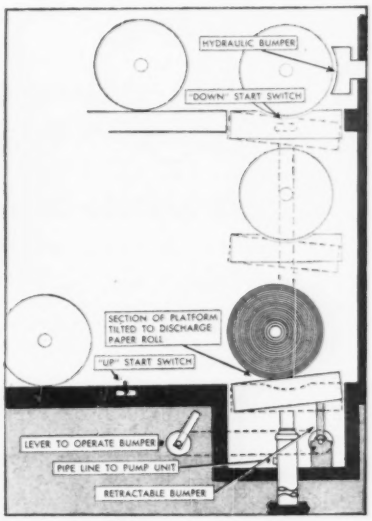


This is the orange-dumping installation. Two hydraulic power cylinders are operated by a Globe Electric Oil Pump. Note fulcrum is established one-third of distance from rear, permitting cargo to spill with minimum amount of fall, at the same time reducing power necessary to tilt the platform.

• • •

Typical time- and money-saving Globe installation involved moving one-ton rolls of paper from an upper floor to the shipping level 11'6" below. A Globe platform lift, equipped with completely automatic controls, solved the problem.

Complete automation was achieved with two limit switch controls. An electric oil



pump unit powered the 8⅝" diameter power cylinder.

• • •

The advantages of tiltable superstructures in materials-handling operations are many—the results to be obtained from installing Globe Ramps, Hoists, or Lifts are usually the same . . . increased productivity, higher profits for the operation.

Globe manufactures the World's Most Complete line of Industrial Lifts and Automotive Hoists. Send for a Catalog describing the Globe Lift that will do the best job for you.

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advances that have been made in production methods.

The economist Harold Barger has stated that "the most cursory survey of technological change in retailing and wholesaling suggests that it has been far slower than in manufacturing." Arno Johnson, one of the first economists to predict the economic expansion in the United States that followed World War II, has recently observed that the rate of this expansion has been slowed by the failure of distribution to keep pace with the expansion of production. Indeed, some leading economists have begun to ask whether the rapid expansion of our economy can continue unless we find ways of distributing the total output of our factories at lower unit costs. Ultimately, our standard of living may bump against a ceiling unless we can reduce the inherent drag of distribution inefficiencies on productivity.

This over-all economic outlook may mean little to the average executive, except that it suggests the general climate in which his company will be operating. But the advances in production technology were not simultaneous and nationwide. They represent the cumulative effect of decisions made by all the companies in this country under our free enterprise system. Any comparable improvement in over-all distribution efficiency must be achieved in the same way.

Closing the Gap

Of course, the efficiency of retailers and wholesalers is not subject to direct control by manufacturers, and manufacturers have more direct control over production operations than over distribution operations. Nevertheless, when a manufacturing company begins to think of its ultimate success as determined not by its production skill, but by its ability to develop and exploit profitable markets, it will find that there are many ways to increase over-all distribution efficiency.

Distribution and production operations are being integrated more and more closely, because this is one of the major ways to maximize profits. The experience of a number of companies indicates, however, that integration is most successful when it is based on a sound long-range program for increasing distribution efficiency.

Details of such a long-range program will vary widely, depending on the nature of the opportunities and the degree of control that a company can exercise over its distribution operations. However, the program should always be in writing, and should cover a minimum five-year period. It should be based on a thorough initial distribution audit, which puts all of the factors that influence the company's distribution efficiency into clear perspective. Provision should also be made for the regular collection and analysis of information needed to keep track of trends in distribution efficiency, particularly distribution costs, share of market, and degree of market coverage.

Concepts of the Plan

In principle, the program should reflect these concepts:

Distribution is efficient only to the extent that it serves the customer well. If customers are served poorly, they will buy from competitors. This has the effect of reducing volume and raising costs. If customers are served too well, profit margins may be cut, because customers will pay no more than a fair price. Precise knowledge of customer needs and wants is essential to the achievement of the company's optimum distribution efficiency.

Distribution operations will be more efficient in the long run when profit-contribution goals have been established at every level of supervision. Undue emphasis on volume goals without regard to cost is one of the most common causes of distribution inefficiency. Field sales personnel can do a more effective job of helping to raise company profits when they have suitable yardsticks for the measurement their profit performance.

Distribution operations must be closely coordinated with production operations. If products are to be available in the right quantities, at the right place, at the right time, production and inventory plans must be closely geared to potential customer requirements. Any distribution improvement program must provide, therefore, for the removal of any remaining barrier between the sales and production departments. Close working relationships should be developed among all executives at every operating level.

Distribution operations can be fully efficient only if facilities, methods, and procedures are up to competitive standards. The most loyal, enthusiastic, and capable personnel cannot achieve maximum distribution efficiency if they are forced to use obsolete warehouses or to employ basically inefficient methods or procedures. Any long-range program should provide for constant review and improvement of existing distribution facilities, methods, and procedures.

Distribution operations can only be as efficient as company distribution personnel. Individual effectiveness is the result of proper selection, sound training, careful supervision, and strong motivation. Obviously, any long-range program for increasing distribution efficiency should give consideration to all these factors. Indeed, some authorities seem to believe that this is the most fruitful area for raising the level of distribution efficiency, since the labor content of distribution operations is so high and the opportunities for individual initiative are usually so great.

Points to Check

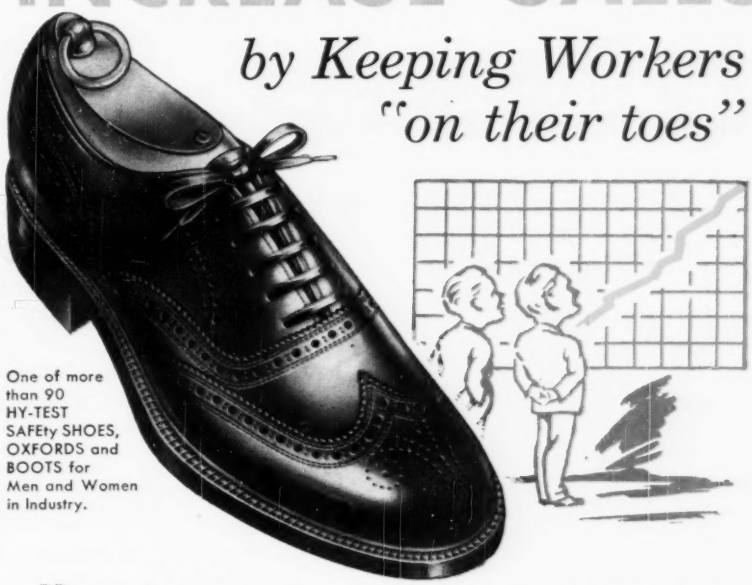
Obviously every company ought to know whether it is paying too much for distribution. By the same token, every company should have a specific long-range program for achieving maximum distribution efficiency. The top executives of any company that has developed such a program should be informed on:

- How many outlets the company should have and where they should be located
- How many items should be in the product line
- How much inventory should be carried at any time or at any location
- How many salesmen should be employed and how they should be selected, trained, supervised, and compensated to achieve maximum sales per dollar of sales expense
- How much advertising should be used
- What types and amount of service should be provided at what points and at what cost
- How to establish prices that will maximize gross profits.

The distribution audit is an effective tool for the executive who wants to have such information at his finger tips. END

INCREASE SALES

by Keeping Workers "on their toes"



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NEW BREAKTHROUGH COMING IN VENDING?

ALSO: ***Sales Meetings Need Not Be Routine***

ONE OF THE BARRIERS holding back a really spectacular boom in vending has been the lack of a change-maker to convert paper currency into silver. Since vending machines today can take only coins, many sales are lost. In addition, the use of banks of machines for in-plant feeding—the fastest growing development in the field—is hampered because companies have to set up manned change-making booths.

To break this "99-cent barrier," manufacturers of vending machines have been working with electronic companies to perfect a reliable bill-changer. Not long ago, one such machine was developed. Although it functioned perfectly, the device ran into legal trouble, for it used engraved plates of actual dollar bills and photographed the inserted bill to compare it with these plates—both violations of Federal law.

So the researchers went off on other tacks, such as the use of a fluoroscope to test the sulphite content of bills (which varies with the denomination). But before this approach paid off, a workable machine was announced. Offered by A.B.T. Manufacturing Corporation, Chicago, the machine works on a yet-unrevealed principle (a patent has not been granted). It will be on the market within a few months.

THE CASHIER IS A ROBOT

The robot cashier will accept bills in all conditions—wrinkled, creased, crumpled, grease-stained, or torn—and will reject those that are counterfeit, foreign, or of the wrong denomination. It can be adapted to dispense merchandise while returning the correct change.

This could and probably will result in an increase in the variety of goods sold through vending machines. At the present time, many higher-priced items cannot be practicably vended, because of the large number of coins they would require. So it is certainly time for manufacturers of consumer goods to take a new look at this market, which is expected to double to $4 billion by 1960.

A Sticker for Accuracy

With the increase in self-service and the rise of the discount house, manufacturers have to make special efforts to get their sales story across to the shopper at the point of purchase. The Maytag Company, Newton, Iowa, now places a sticker on each appliance on the assembly line. It details the item's features and shows endorsements from consumer magazines.

Pepping up sales meetings

Are your sales meetings soporific? To find out, listen to an expert, Percy Whiting, veteran sales-training director for the Dale Carnegie schools. In a recent talk before the Sales Executives Club in New York he offered some advice, distilled from

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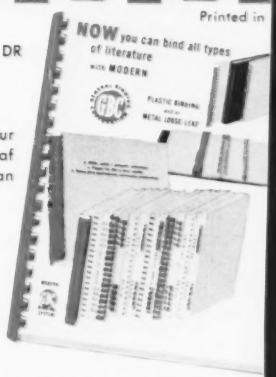

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his decades of experience in running sales meetings in industry.

Many salesmen throw up their hands at the announcement of a sales confab. Why? According to Mr. Whiting, it is primarily because management looks upon the sales group as a captive audience and frequently fails to make a special effort to hold their interest.

Too few sales managers are fully aware that the sales meeting is really a group sale, in which they are striving to sell the men on actions or ideas that will benefit all. Here are some of the specific things the meeting chairman can do:

1. At the beginning tell the salesmen exactly what they will get out of the meeting. Give the salesmen the specific information that they can use. Don't provide only what *you* think they need—find out what *they* think they need.

2. Earn the right to speak on the subject of the meeting by having all facts and figures at your fingertips.

3. Sprinkle some actual examples throughout your presentation. Salesmen like a story as well as the next person, and the examples may be first-rate sales ammunition too.

4. Don't preach. Don't rely on *clichés* or inspirational harangues. Instead, show your own enthusiasm about the subject. It can be catching.

But, Mr. Whiting cautions, it is not enough to improve your own methods of presentation. Since the sales meeting, in a sense, is really a group sale, every effort should be made to bring about active participation by all the people present. Unless they do take part, the chances are slim that the salesmen will catch the manager's enthusiasm.

Taking the "routine" out of a routine sales meeting can be hard work. But you have to put something into your meeting to get something out.

Selling at a fast clip

In recent years, the auto-makers have placed increased stress on appealing to women, who, according to market surveys, play a key role in deciding to buy. The bold styling and splashy colors of recent models have been in keeping with this approach.

But the men aren't being completely overlooked. At least one automaker is aiming a special sales appeal directly at men and is seeking them out in one of the last exclusively male retreats—the barber shop. The Dodge Division of the Chrysler Corporation recently mailed stereoscopic viewers and color slides to 51,000 barber shops across the nation. The company hopes that the photos of the new models will be grist for these conversational mills.

Selling on time

When consumer credit first appeared on the American scene, it was limited to strictly tangible purchases —automobiles, major appliances, pianos—which could be repossessed if the payments were not kept up. In recent years credit has been extended not only to such soft goods as clothing but also to intangibles that vanish without a trace—except in memory. Two years ago the airlines announced their "fly now—pay later" plans. Last month the airlines were joined by a steamship company—Home Lines—which announced that it was offering transatlantic ocean passage on a similar basis—a little down, months to pay after the ball is over.

—T.K.

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INTERNATIONAL BUSINESS GAGES ITS 1958 PROSPECTS

ALEXANDER O. STANLEY

Representing 81 per cent of U.S. imports and exports, the 53 trading areas reporting in DR&MI's forecast sound a reassuring note, despite worries over U.S. production cutbacks.

THIS YEAR, as in 1957, the pattern of things to come on the international trade horizon has been disturbed by unforeseen events. A year ago the Suez adventure was a confusing and unpredictable factor in the arithmetic of the 1957 international forecast. Today, sags in some of the key economic indices of U.S. industry are casting a certain pall over 1958 foreign trade prospects.

The United States is the largest single consumer of many exportable commodities produced in the fields, mines, and factories of our markets abroad. In fact, the economic well-being of some 90 countries waxes or wanes in proportion to the volume of goods we buy and the prices we pay for them.

The production glut in metals (especially copper, lead, zinc, aluminum), edibles (especially coffee), and textiles (especially cotton and wool) and the resultant fall in prices have been a nagging problem for Latin American, African, and Far Eastern countries that are dependent for their livelihood on these exportables. Industrialized Europe, enjoying expanding exports and a broadened base of internal consumer demand, has been less affected. But the recent decline in U.S. industrial output has jolted all segments of the international business community. It was expected that these developments would be reflected in a deeply pessimistic 1958 forecast. On the contrary, despite these current worries, reports filed by 53 of the branches and correspondents of DUN & BRADSTREET's International Division mostly discount the long-term impact of these developments and anticipate improvement or, at worst, holding the line in all nine economic factors reviewed in the forecast (see table on page 90).

Highlighting the Expectations

If these predictions are correct (and they have been substantially so in past surveys), here is what U.S. international business can expect in the year ahead:

- More than one-third (twenty) of the respondent countries expect to import as much from the United States in 1958 as they did in 1957. Also, more than one-third (nineteen) think their imports from the U.S. will be higher than in 1958.
- Almost half (26) anticipate buying more heavily from countries other than the United States, and only nine think their imports from other countries will be reduced.
- Only seven countries forecast a reduction in their exports to the United States, and almost half (25) look for 1958 exports to hold up at least to 1957 levels.
- Roughly the same pattern prevails in their forecast of exports to other countries in 1958. Four out of five respondents believe that their exports will be at or above 1957 levels, with higher volume having a heavy edge.
- The most comforting observations are in the area of the current dollar situation. More than half (27) report a strong or strengthening dollar position, and only eleven countries look for dollar deterioration in 1958.
- The most pessimistic note is sounded in the forecast of local sales. Almost half (26) the countries think there will be a downward readjustment during 1958, but even in this area a bright spot appears, with 21 countries, or somewhat under one-half, expecting local sales actually to improve in 1958.
- A piling up of inventories is posted by about one-third (eighteen) of the countries, but roughly two out of three respondents regard their inventory position as "normal." This could be an ephemeral condition, however, for if local sales turn sluggish, inventories could become burdensome almost overnight. By the same token, a pick-up in sales volume could just as quickly convert a normal condition to a thin one.
- In the main, the credits and collections picture is relatively strong, with two out of three markets expecting credits to be at the good-to-fair

level and collections fairly prompt. • Industrial activity enjoys one of the strongest showings in the entire report, with more than four out of five countries expecting output to equal or exceed 1957 levels. In fact, the prospect of expansion was emphasized by 25 of the respondent countries. Only six anticipate a cutback in activity.

Pinpointing the Bright Spots

If the over-all picture is encouraging, the outlook is even more inviting when the focus is shifted to certain areas and key markets within the geographical blocs surveyed.

Far and away our No. 1 export market, **Canada** absorbs more than 20 per cent of all our exports and promises to stay firmly in this top spot. Only two negative points show up in the analysis: (1) Canada's purchases from the United States may stay at 1957 levels, and (2) there may be a downward adjustment in local trade.

Puerto Rico, which has commonwealth status within the U.S. political structure, is usually among our first ten export markets, buying more than $500 million annually from us. Its forecast shows general improvement in all aspects except exports and local sales.

The **Latin American bloc,** which buys some $3.5 billion of our exports, emphasizes the probability, over-all, that 1957 levels of activity will be maintained. But some weak spots appear in two key markets—**Argentina** and **Brazil**—whose combined U.S. purchases tally better than $500 million annually. Influenced by weakening dollar reserves, a decline from 1957 import levels is indicated in both countries. Of the two, the Brazilian estimate, based on São Paulo reports (the industrial complex of Brazil), is the gloomier, with cutbacks predicted at almost all points of the study. It might be called "the market least likely to succeed" in 1958. (A radically different picture, however, is presented by Rio de Janeiro observers, who expect internal, international, and industrial operations in Brazil to be much better in 1958.)

Cuba, despite a continuing rebellion against the government, counts on a comparatively mild economic retreat. Even at worst, this $500 million market expects to keep its overall economy at 1957 levels.

The situation in **Mexico** in 1958 promises further improvement in an already strong position. Plus signs for its internal and international trade, as well as for industrial activity, should keep the market securely lodged in the No. 4 spot among U.S. export customers, taking over $800 million worth of our products annually.

Europe, with its broad industrial complex, reports an undercurrent of optimism, evolving from higher imports to support further increases in industrial output.

HOW 53 COUNTRIES FORECAST MAJOR WORLD TRENDS IN 1958

	Above 1957 Levels	*At 1957 Levels*	*Below 1957 Levels*
Imports from U.S.	19	20	14
Imports from other countries	26	18	9
Exports to U.S.	21	25	7
Exports to other countries	26	18	9
Current dollar situation	27	15	11
Forecast of local sales	21	6	26
Current inventories	18	33	2
Wholesale credit and collections	9	33	11
Local industrial activity*	25	11	6

** Eleven countries did not comment on industrial activity trends since these represented a minor factor in their economic structure.*

Most prominent is the **United Kingdom,** the No. 2 importer of U.S. goods. Its forecast is generally good in all categories except local trade, which is thought to be heading for a downturn.

Western Germany, fifth in line in U.S. export markets, expects robust expansion in 1958 in almost all areas.

The most negative report came from that economic stronghold, **Switzerland.** Its market factor for 1958 dropped from sixteen to ten, or just one point above the minimum.

Reports from the **Middle East** are surprisingly favorable, in view of the ominous picture a year ago, when military and political fuses were sputtering dangerously. Today, optimism, at least in the economic sphere, is high. Of the five countries, four—**Iran, Israel, Lebanon,** and **Saudi Arabia**—wind up with a 1958 market factor equal to or better than the 1957 forecast. Only the report from **Turkey** is gloomy. New declines are anticipated in exports, with those to the United States just holding to 1957 levels. Since Turkey is our leading market in the Middle East and absorbs some $100 million worth of our goods annually, there is at least some comfort in the report that 1958 purchases of U.S. products will hold up to last year's imports from us.

The **Far East** and **Oceania** picture is at best spotty. **Japan,** third on our list of leading export markets, says it expects to expand its U.S. buying in 1958. But on the debit side of the ledger it reports a piling up of inventories and a resultant weakening of internal credits and collections. Uneasy and unfavorable potentials in other sections of the Far East are also reported. These are summarized in the special report on that area (see page 96).

Africa, represented by only four respondents, reports both good and bad prospects. In the forefront is the **Union of South Africa,** which accounts for more than $150 million, or better than one-third, of all U.S. exports to Africa. Here, increased imports from the United States, as well as from other areas, are considered unlikely. A diminishing local trade is also probable in 1958. But improved exports to world markets, hopefully predicted for this year, could build up dollar and foreign-exchange reserves, and may, in future months, encourage the Union to reenter world markets as a large-scale buyer.

SPECIAL REPORTS FROM THE INTERNATIONAL NETWORK OF DUN & BRADSTREET, INC.

Because no questionnaire can possibly encompass the special situations that obtain in different markets, all respondents were asked to amplify their answers. Here are some excerpts from these comments, which will add depth to the tabular picture of these key markets.

CANADA: Economic trends in Canada can be traced almost directly to U.S. economic conditions. The premium on Canadian money has encouraged importing by Canadian businesses, since it has lowered the price of the American goods. However, the Canadian dollar is getting closer to par, and where it stands in 1958 will have an effect on imports from the U.S. John George Diefenbaker, Prime Minister of the recently elected Conservative government, has been getting considerable publicity for

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53 MARKETS FORECAST 1958

	1958	1957	A Imports from U.S.	B Imports from other countries	C Exports to U.S.	D Exports to other countries	E Current dollar situation	F Forecast of local sales	G Current inventories	H Wholesale credits and collections	I Local industrial activity
Canada	22	23	••	•••	•••	•••	•••	•	••	•••	••
Puerto Rico	23	25	•••	•••	•••	••	•••	••	••	••	•••
LATIN AMERICA AND WEST INDIES											
Argentina	17	19	•	•••	••	•••	•	•	••	•	•••
Brazil, Sao Paulo	11	22	•	••	•	••	•	•	•	•	•
Brazil, Rio de Janeiro	22	22	••	•••	••	•••	••	•••	••	••	•••
British Guiana	23	24	•••	•••	••	•••	•••	•••	•	••	•••
British West Indies:											
Antigua	15	18	••	•••	••	•	••	•	•	•••	—
Bahamas	20	—	•••	•••	••	••	•••	•••	•	•••	—
Bermuda	21	21	••	••	••	••	•••	•••	••	•••	••
Grand Cayman	19	22	•••	••	••	••	••	•	••	••	•••
Grenada	15	14	•	•	•••	•••	•••	•	•	••	—
Jamaica	24	22	••	•••	•••	•••	•••	•••	••	••	•••
St. Kitts	15	21	••	••	••	•	•••	•	•	••	•
St. Lucia	19	—	••	••	•••	•••	•	•••	••	••	•
Colombia	16	16	•	•	•••	•••	•	•	••	•	•••
Costa Rica	24	19	•••	•••	•••	•••	••	•••	••	••	•••
Cuba	19	24	••	••	••	••	•••	••	••	••	••
Dominican Republic	20	19	••	•••	••	•••	•••	•••	•	•••	—
Ecuador	21	23	••	•••	•••	•••	••	•••	••	••	•
El Salvador	12	15	•	•••	•	•	•••	•	•	•	—
French West Indies	22	21	•	•••	•••	•••	•	•••	••	•••	•••
Guatemala	18	23	•	•••	••	•••	•	•	••	••	•••
Honduras	20	20	••	••	••	••	•••	•••	•	•••	••
Mexico	23	23	•••	•••	••	••	•••	•••	••	••	•••
Neth. Antilles	18	20	••	••	••	••	•••	•	••	••	••
Nicaragua*	14	16	••	••	•	••	••	•	••	••	—
Peru	23	24	•••	•••	•••	••	•••	•••	•	••	•••
Uruguay	17	17	•	•	•••	•••	•••	•	••	•	••
Venezuela	21	25	•••	•••	••	•••	•••	•••	••	••	—
EUROPE											
Denmark	19	—	•	•••	•••	•••	••	•	•	••	•••
West Germany	25	26	•••	•••	•••	•••	•••	•••	••	••	•••
Greece	20	22	•••	••	•••	••	••	•••	•	••	••
Italy	21	25	••	••	••	••	•••	•••	••	••	•••
Netherlands	18	21	•	••	••	•••	•••	•	••	••	••
Norway	24	23	•••	•••	•••	•••	••	•••	••	••	•••
Switzerland	10	16	•	•	•	•	••	•	•	•	•
United Kingdom	22	22	••	•••	•••	•••	•••	•	••	••	•••
MIDDLE EAST											
Iran	20	19	•••	•	••	••	•••	•••	••	•	•••
Israel	26	26	•••	•••	•••	•••	•••	•••	••	•••	•••
Lebanon	22	14	•••	••	•••	•••	••	••	••	••	•••
Saudi Arabia	13	13	•	•	••	••	•	••	••	••	—
Turkey	18	21	••	•	••	••	••	•	•••	•••	•••
FAR EAST AND OCEANIA											
Australia	17	14	••	•••	•	•	•	•	•••	••	•••
Guam	18	—	•••	•••	••	•	•••	••	••	••	—
Hong Kong	21	19	•••	•••	•••	•••	••	••	••	••	•
India	11	23	•	•	•	•	•	•	••	•	••
Japan	19	23	•••	••	••	••	••	•••	•	•	•••
Philippines	16	20	•	•••	••	••	•	•	••	•	•••
Pakistan	21	21	•••	••	••	•••	•	••	•••	••	•••
Thailand	19	22	••	••	••	•••	•••	•	••	•	•••
AFRICA											
Liberia	15	—	•••	•	••	••	•••	•	•	••	—
Nigeria	18	—	••	•••	•••	•••	•	•••	••	•	—
Rhodesia and Nyasaland	14	22	••	••	•	•	••	•	•	••	••
Union of South Africa	20	23	••	••	•••	•••	•••	•	••	••	••

*The total market factor for Nicaragua has been adjusted to compensate for lack of a report on industrial activity (which had a •• factor in 1957).

a program to try to direct 10 or 15 per cent more of Canada's importing trade to the United Kingdom. Of course, there has also been some discussion of free trade with England, but nothing has come of it up to this time. It is a very debatable point, since there are many Canadians who would certainly not appreciate it. What is done along these lines will affect imports from the United States.

PUERTO RICO (Industries): The Economic Development Administration plant-promotion program is sensitive to mainland changes in economic conditions. If industrial production declines in the U.S., there is bound to be, after a lag of possibly six months, a decline in the number of newly promoted plants in Puerto Rico. During the 1956–57 fiscal year, E.D.A. promoted 180 plants, a record number. The majority of these are expected to begin operation in 1957–58. In nonagriculturally based manufacturing industries, net income during 1956–57 increased 23 per cent over the previous fiscal year. A corresponding increase is anticipated for 1957–58. A substantial increase—between 20 and 25 per cent—during 1957–58 in construction, both public and private, is also predicted.

ARGENTINA: Although the dollar-exchange situation remains weak, some relief in the over-all exchange picture is expected from the recent consummation of the Paris Club agreement. This will provide more flexible trading in the European area, but less with the United States. Peso deterioration has cut the Central Bank's gold holdings to a low of $130 million, and the outlook for improvement remains bleak, especially as the grain crop will probably drop below last year's. Labor unrest, triggered by both the high cost of living and political influences, has recently been depressing the industrial production index. Despite this, and the lack of capital-equipment replacements, the short-term prospect for industrial production is optimistic. Much of the uncertainty of the business outlook may be finally resolved after the February 1958 elections.

MEXICO: Business and politics have always had an influence on each other, but this fact now applies even more strongly to Mexico. The presidential candidate of the political party in power (Partido Revolucionario Institucional or P.R.I.) is Lic. Adolfo Lopez Mateos, at present Secretary of Labor. Until after the national elections in July 1958, business men are taking a rather conservative and reserved attitude. Money for working-capital purposes is somewhat scarce, and available money is offered

LEGEND FOR TABLE ON MARKET FORECAST

In evaluating market forecasts, the following symbols have been used:

●●● Above 1957 levels
●● At 1957 levels
● Below 1957 levels

These apply to columns A, B, C, D, F, and I. For column E (current dollar situation): ●●● indicates strengthening dollar situation; ●● indicates no change in dollar situation; ● indicates weakening dollar situation. For column G (current inventories): ●●● indicates understocked inventories; ●● indicates adequately stocked inventories; ● indicates overstocked inventories. For column H (wholesale credits and collections): ●●● indicates good credit situation and prompt collections; ●● indicates fair credit situation and fair collections; ● indicates poor credit situation and poor collections.

The total market factor is an arithmetical number arrived at by adding the number of dots in each of the nine columns pertaining to any one market area; the highest possible total is 27. A market factor of 18 is the dividing line; a higher figure indicates a forecast of general improvement over 1957; a lower figure, a decline from 1957. It must be clearly understood that the total market factor is not weighted, that is, the increasing or relative importance of the factors has not been allowed for. It is, therefore, difficult to establish a precise total market evaluation. For example, in one case the current inventories and local industrial activity might be subordinate to the current dollar situation or to exports to the United States, both of which might far outweigh all other factors. The reverse might be true in another country. But by using the total market factor, it is possible to get a workable index of the market position of each country and an evaluation of its potential for 1958.

Color dot indicates a decline from forecast in 1957 reports.

Black dot indicates same as or improvement over forecast in 1957 reports.

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EXPERTS WITH EXPORTS

at rather high interest rates. There is no exchange restriction on the U.S. dollar, but some quarters are trying to acquire all the dollars they can in the event of another peso devaluation. The cost-of-living index continues to reflect the impact of inflation. It climbed to a new high of 632.4 in September 1957 (1931=100). Wholesale prices receded slightly from a high of 127.3 (1954=100) in August 1957. The producer-goods index reached a crest of 121.3 in August and stayed there in September 1957 (1954=100).

GERMANY: Germany is now making an effort to increase its imports, not only to combat rising prices on the domestic market, but also to offset, to some extent, the continued flow of gold and exchange to Germany in the international balance of payments. A number of tariff rates are being reduced in line with this program. An interesting experiment is the so-called *Jedermann-Einfuhr* (everybody-import) program started in May 1957. This is a scheme to promote direct mail-order import in small quantities by private individuals, with paperwork considerably simplified. The idea is catching on, slowly but steadily. One U.S. mail-order house has been attempting to cash in on this trade.

The signing of treaties for the establishment of a European customs union and a European joint atomic program in March 1957 marked another important step toward unification of Europe. The program provides for the establishment of a customs union, known in Germany as *Europamarkt* (European market), to be achieved in three four-year phases. It is certain that this program will require readjustments in Germany's economy, but, in general, German exporters are confident of continued prosperity.

Nineteen fifty-seven was characterized by the further expansion of German gold and foreign-exchange reserves, which on October 31, 1957 stood at $5.79 billion, an increase of $1.75 billion since last year's report. Well over $2 billion of this amount is in gold. The increase has been mostly the result of Germany's continued favorable trade balance, although currency difficulties in Western Europe in the third quarter also brought a considerable flow of funds into Germany. The German economy still suffers from a lack of working capital, since almost all available funds have been invested in the postwar reconstruction of the German economy. Balance sheets generally show high indebtedness. Trade acceptances and notes are widely used in German commercial credit practice. Six hundred thousand notes went to protest in 1956. However, the insolvency rate (bankruptcy and composition proceedings) has remained quite stable, at about

4,000 a year, and there is no sign that it is increasing. It has, however, been noted that dividend quotas paid to unsecured creditors in bankruptcy proceedings are becoming smaller.

Despite lack of working capital, increased investment of German capital in foreign countries has been urged by many leaders to reduce the extraordinarily high gold and exchange reserves. The last restrictions on export of capital were removed in 1957, and only the requirement to report transactions remains.

On the labor market, a reduction of work-hours with unchanged pay is well in progress. Where previously the 48-hour week was standard, 8.6 million workers now enjoy a 45-hour week, and labor unions are pressing for 44 hours. Many government offices are also on the reduced schedule.

In the money market, high interest rates continue to be demanded. Actually, a curiously reversed situation exists—i.e., stocks bring yields of only about 4.68 per cent in comparison to about 7 per cent on bonds.

UNITED KINGDOM: Discussions of the European Free Trade Area, and the problem of exchange fluctuations may have a marked impact on the future economic trend of the United Kingdom. Time will tell.

AUSTRALIA: Since 1946, Australia has shown considerable growth in its production facilities, and this expansion is continuing, along with an increase in population. It still depends heavily on primary products, however, with export of wool representing about 49 per cent of total export earnings. Because trading is tied to sterling and sterling is weak in dollar terms, the dollar-exchange situation is expected to soften still more during the next year. In recent months a serious drought has been parching country areas, particularly New South Wales—the biggest wheat producer. Consequently, this season's wheat crop is not expected to exceed 70 million bushels, as compared to 135 million bushels in 1956–57. The poor crop not only will bring a heavy loss in export earnings but will probably necessitate the import of Canadian wheat at the cost of valuable dollar exchange. The wool clip for 1956–57 was 1.565 million pounds; the estimate for this season is down a little, to 1.523 million pounds. Late in September, 1957, the price of wool fell alarmingly, and shortly afterward, the French government subjected wool to the 20 per cent devaluation of the franc. The effect of this on Australia is obvious when it is realized that after the U.K., France is Australia's biggest wool customer. Prices at the wool auctions fell from 79 pence a pound in October

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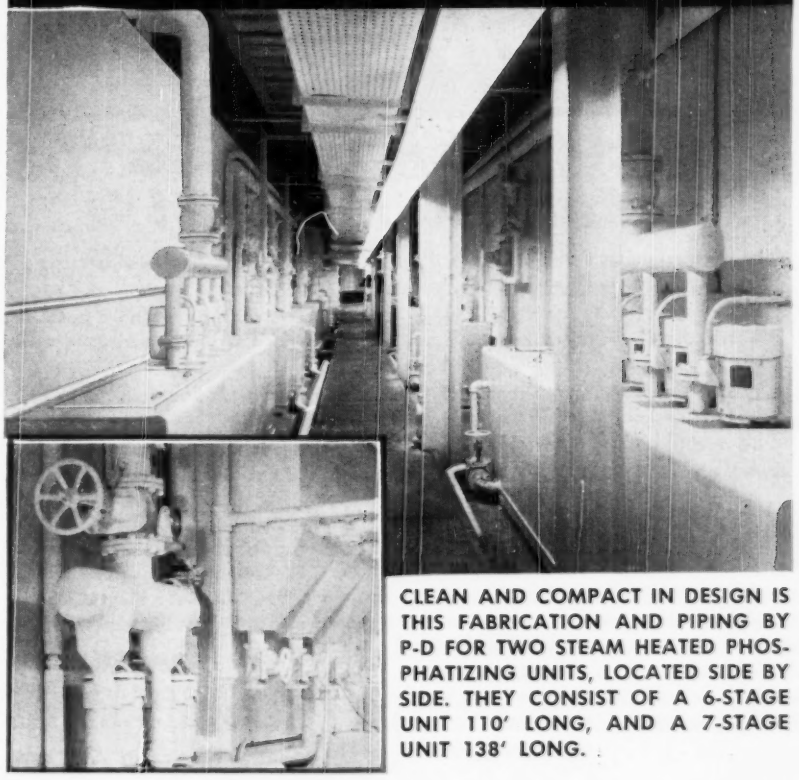

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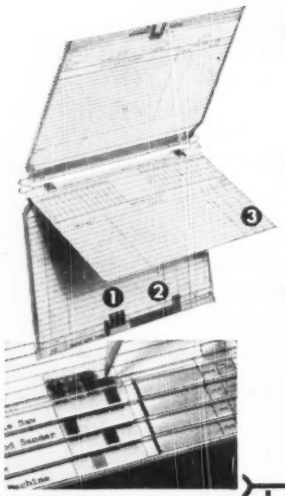

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1956 to 65 pence a pound in October 1957. The estimated loss is £40 million in export income for wool alone.

FAR EAST: During 1958, in most Far Eastern areas trade with the U.S.A. will be subject to political and economic influences and pressures from Western as well as Eastern countries. For instance, Ceylon and Burma have found it economically convenient to trade with Eastern countries, selling their produce to them and, in turn, purchasing light industrial manufactures. Mainland China and Japan compete keenly for markets of the Far East—such as Malaya, Singapore, Thailand, Hongkong, Vietnam, Burma, and Ceylon. Not included are Communist-dominated North Korea, Vietminh, and Laos.

Although the Western countries still have a good market in the Far East for specific goods and raw materials, consumer goods may suffer during 1958. Raw materials and certain manufactured goods are still in demand from the West by Afghanistan, Burma, China, India, Indonesia, Korea, Malaya, Singapore, Taiwan, Thailand, and Vietnam.

In Malaya, a new problem may arise, namely the position and influence of the overseas Chinese community. (Not so serious as in Malaya, this problem also exists in the Philippines, Vietnam, Burma, Thailand, and Singapore.) Unless this community feels secure, its members may limit their business in this area, or withdraw their capital influence. Then there would be a "China question" ready for easy exploitation by political interests—to say nothing of the economic repercussions, for the overseas Chinese community controls considerable investments and capital. As a result, all Southeast Asia could move toward the Communist bloc. There is no immediate danger of such a turn of events, but the possibility cannot be ignored. Should political maneuvers upset one or two countries, for whatever reason, still another area might swing out of the orbit of Western political and economic influence.

NOTE: Space limitations preclude publishing all the special comments. These have been prepared in a pamphlet which is available on request from International Division, DUN & BRADSTREET, 99 Church Street, New York 8.

The separate study reviews the following areas: British West Indies (Bahamas, Grand Cayman, Grenada, St. Kitts, St. Lucia), Colombia (Bogota, Bucaramanga, Barranquilla), Costa Rica, French West Indies (Martinique), Guatemala, Nicaragua, Netherlands, Norway, Iran, Israel, Lebanon, Guam, Rhodesia and Nyasaland, Liberia, Nigeria, Saudi Arabia, Thailand, and India. END

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WHAT'S AHEAD FOR INDUSTRY

continued from page 35

—much of it defense-related—which is expected to have far-reaching effects throughout all industry in years to come. Panelists' predictions do not go so far as those that have lately been heard from some missiles men, who foresee—at least for press consumption—motels in space for honeymooners and wide-open interplanetary gambling joints. Practical technological advances in chemistry, electronics, and automation are what the panelists have in mind. Well over half the presidents expect these developments to influence their companies' futures. Fields named range from "new uses for existing products and manufacturing efficiencies" to solid state physics.

(For the major fields of technological development named by the Panel, see box on page 96.)

Labor Pains

Among many other variables and uncertainties in long-range planning, labor unions rank high in importance. While 43 per cent of the Panel expect nothing in the labor-management picture that threatens to impede their long-range plans, a larger proportion—53 per cent—are seriously concerned about growth in union power and what they see as a wage-price spiral unrelated to productivity.

Even those presidents who feel that all's well, temporarily, on the labor front concede that "anything can happen," and "outside 'pattern' influences could hurt." One president foresees no trouble "unless unions continue to make demands under which our industry cannot survive. I do not expect this." Another "can only say that peaceful and sensible management-labor relations are essential to the fulfilment of our future plans."

Among the clouds that the less optimistic presidents see forming on the labor-management horizon, the most threatening is the "passion of labor leaders for automatic annual wage increases" without a corresponding rise in productivity. "Productivity restrictions and featherbedding" is one man's description of the threat. Another puts it, "If the increases in wage rates continue to outstrip real gains in productivity, the squeeze on profits will reach the

GROWTH: HOW MUCH BY '62?

Among the key tools used for company long-range planning, economic forecasting is indispensable. In contrast to their mixed feelings about the outlook for their own companies and the economy in 1958, Panel presidents unanimously expect their companies to grow substantially by 1962. Profits, sales, and invested capital are all expected to grow faster than the Gross National Product—and the number of employees on Panel company payrolls will about keep pace.

THE QUESTION: "Compared with 1957, what per cent increase do you project for 1962 in profits, sales, invested capital, and number of employees?" In reply, nearly four out of five Panel presidents gave specific estimates. Here are the five-year projections:

PROFITS—Up 57.8 per cent (weighted average). Estimates range from ¼ of 1 per cent to 300 per cent. Median expectation is a 35 per cent increase.

SALES—Up 34.1 per cent. Estimates range from 4 per cent to 200 per cent. Median expectation is a 30 per cent increase.

INVESTED CAPITAL—Up 27.2 per cent. Estimates range from 2 per cent to 100 per cent. Median expectation is a 20 per cent increase.

NUMBER OF EMPLOYEES—Up 15 per cent. Estimates range from a drop of 1 to 20 per cent (four companies) to increases of 5 to 200 per cent. Twenty per cent of the responding companies expect no change in the number of employees over the next five years. Median expectation is a 15 per cent increase.

One out of five responding presidents gave no specific figures, but offered such comments as: "In 1962 there will be an increase in all respects." "Now in process of reviewing our five-year plans." "Pure guessing; 1962 is too near for long term, too far for short term." One comment may throw some light on the sharp differential between expected sales and employee increases: "We estimate that our sales will be up 80 per cent in the next five years. Since we expect increased automation to lessen the need for marginal employees, we estimate that our employee increase during this period will be only 67 per cent."

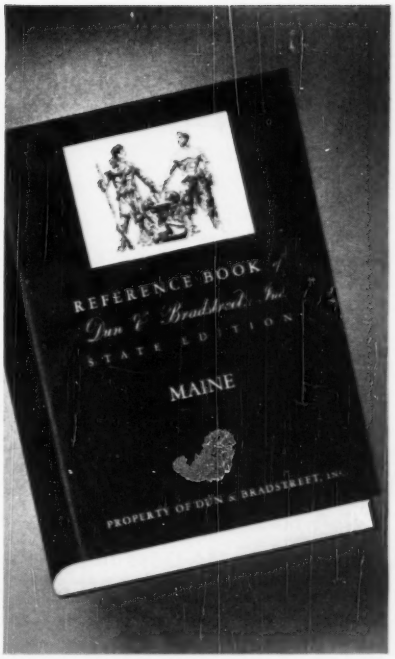
point of interfering with funds available for investment and expansion."

Growth in union power disturbs many men. In the words of one, "Unless the demands and tactics of labor are controlled, preferably by means of legislation, the mere power of labor unions will obstruct and impede our forward progress."

Other growing threats in the labor-management picture mentioned by the panelists: "We are currently unorganized, but for how long?" "SUB looks like a very costly program for any seasonal business. Sixty-five per cent pay for *not* working may be just the start on this plan." "The threat of secondary boycott. Many of our products require installation at the job site. A boycott by a local union can and does either hold us out of the market or raise our costs to an uneconomical level. Even though we may be completely unionized in the plant in which the equipment is built, we encounter increasing difficulty having our products installed in many major sections of the country." Another president complains of "treatment of our industry by a powerful union as though our business were comparable to the auto industry."

Obstacles to Long-Range Planning

Asked, "What do you find is the biggest obstacle to successful long-range planning?" the Panel mentioned such problems as unsettled world conditions; the difficulty of



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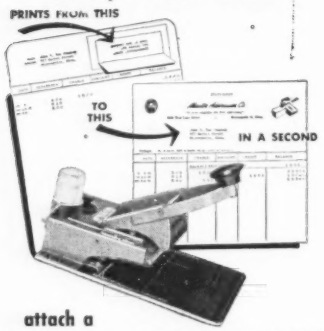

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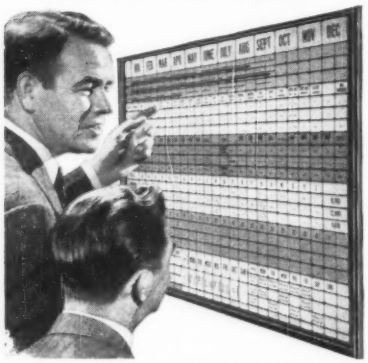

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outguessing Washington on policies, spending, and taxes; inflation; and the uncertainties of technological research and change. But three things emerged as the greatest obstacles to successful long-range planning: getting the time to do it, getting the right people to do it, and getting good forecasts for profits, markets, and general business conditions.

CHARTING TECHNOLOGY'S IMPACT

No uniform pattern emerged from the Panel's answers to the question: "In what field of technology do you look for developments that will have the greatest influence on your company's future?" But most frequently mentioned were the following fields, ranked by frequency of mention:

1. Chemistry
2. Electronics
3. Automation
4. Metallurgy
5. Atomic and nuclear energy
6. Mechanical engineering
7. Nutrition and food preservation
8. Solid state physics

Here are some typical comments from the Panel about these and related problems:

- *Time:* "Freeing executives from routine operational duties to devote more of their time to forward planning."
- *Forecasting:* "Satisfactory long-range planning requires the ability to see favorable operating conditions for a number of years ahead, and at times this is difficult."
- *Money:* "Not having any assurance that the money is going to be available to carry out plans that are made."
- *Research and technology:* "The constant technological race in our industry, together with the uncertainty as to amount of earnings retained in the business."
- *Inflation:* "The measurement of the effect of the inflationary spiral upon costs and the extent to which higher costs can be recovered through increases in sales prices present a difficult problem in long-range forecasts."
- *Washington, D.C.:* "Confiscatory taxes and profligate spending by the national government."
- *Human problems in long-range planning:* "Not enough cold analytical evaluation on the part of subordinates, who tend too much toward blue sky." "Lack of brains." "Lack of vision, imagination, and optimism." "Indecision and disagreement among executives on operational plans." "The greatest problem is to get managerial personnel at operating levels to think in terms of the future, and to develop a perception of the many complicated factors on which the future of their respective operations depends. This requires real thinking, one of man's most difficult functions." "Short-range thinking kills long-range planning."

One president thinks the chief obstacle to long-range planning is "the difficulty that top management has in keeping at it long enough to develop a workable facility for it. Planning of any degree must be done on an integrated basis, using all the factors of business, such as marketing, production, engineering, finance, and personnel. These factors must be pulled together at a common focal point on the corporate level by a corporate staff function. Because of the complexity and the need for a continuing program, subject to continuing refinement, the coordination and integration should be delegated to some coordinating section of the corporate function."

Age of Professional Managers

In their own minds, today's top managers feel that they are better prepared to solve the problems of long-range planning than their peers two and a half decades ago. Presidents on the Panel overwhelmingly agree (some, of course, with specific reservations) that management has become more professional or "scientific" than it was 25 years ago. Only a maverick 3 per cent of the panelists state flatly that management is not now more professional, although one of these men concedes that management today is "more complex and makes faster decisions because of faster information."

Many reasons are cited by the great majority of presidents who

agree that their jobs are now more professional than ever: university and in-company training have increased; proprietary rather than owner-management forces managers to become professional; business methods have been analyzed and improved; technology and increasingly complex business organizations have required more specialists, and more understanding and better-trained executives to manage the specialists; high costs of business have made guessing and gambling too expensive. But many presidents also feel that, although new management tools have evolved and a new recognition of professional status has been

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"Carefully calculated attempt by Russia to scare us into a soft policy. Technically, of only relative importance."

"A shot in the arm and a kick in the sitting position toward eliminating that feeling of complacency which has resulted from our thinking that we were way ahead of Russia scientifically and technically."

"Will give the Federal Government an excuse to turn on the spending faucet—bullish and inflationary."

"Fear that it will induce further effort to 'buy friendship' of other nations with our tax dollars, when in fact self-help and the development of a climate favoring economic growth and business expansion, as in Germany, is their only salvation."

"Bad. It will concentrate more defense dollars in fewer behemoth corporations. Shakes public confidence."

"Overconfidence will disappear. American industry will swing into the scientific job at hand. Net effect will be healthy."

"Mostly good—gives a big boost to our scientific men to get off the dime, since the public wants results—means more military business in the economy."

"It has caused fear and especially talk beyond its true implications."

"Think it will increase emphasis on science education and research and, unless war develops (which I do not anticipate), should aid us in getting better people and obtaining stockholder support for expanded research."

"The Russian threat is stronger than we thought. We have a rough, tough job ahead for at least the next five years."

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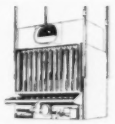

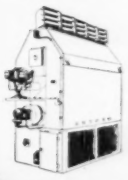

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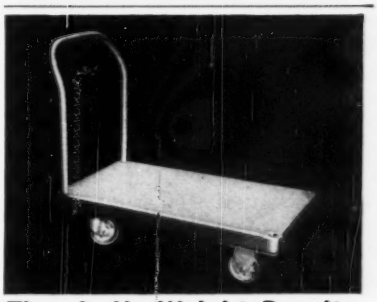

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attained, the human qualities of leadership still rank first in good management. A number of presidents feel, too, that the "professional" manager is more common in the larger company than in the smaller.

Panelists discussed the professionalization of management at such length that only a few representative views can be given here. Here is a sampling of answers to the question: "To what extent do you feel that management has become more professional or scientific than it was 25 years ago?"

- "This is an age of specialists in management rather than management by specialists. The great complexity of business today requires not one who is trained in a specific field, but rather one who has a broad grasp of all the facets of operations. The professional manager shapes policy by setting objectives, and delegates authority to specialists for each facet of operation in order to achieve these goals."
- "Our operating team is now three-fourths professional, and I have a scientific background that originally would have confined me to my profession."
- "In past years, when business units were smaller, management could learn by trial and error. Today corporate size and the many ramifications of competition forbid experimentation."
- "With increasing size and complexity of business enterprises, a scientific approach to business problems has become the only way to develop data needed for decision."
- "Excellent strides in careful, thoughtful planning as basis for responsible management. I deplore, however, the tendency to standardize people, to type them, and to eliminate 'flair.'"
- "A successful executive in business must have just as much training and must constantly study to keep abreast in exactly the same way as a lawyer or doctor."
- "There is a broader knowledge of the techniques of effective management, and more comprehensive and reliable information on which to make important decisions. This creates the belief that management is more professional and that its methods are more scientific. But the qualities of leadership vary and are relative as always, and the most effective

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Air Reduction Co., Inc.
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Allied Chemical & Dye Corporation
I. W. WILSON
Aluminum Company of America
KEMPTON DUNN
American Brake Shoe Co.
W. G. MALCOLM
American Cyanamid Co.
JOHN E. BASSILL
American Enka Corporation
JOSEPH A. GRAZIER
American Radiator & Standard Sanitary Corporation
G. S. TOMPKINS
American Viscose Corporation
HOWARD I. YOUNG
American Zinc, Lead & Smelting Co.
R. L. GRAY
Armco Steel Corporation
CLIFFORD J. BACKSTRAND
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Baldwin-Lima-Hamilton Corporation
CARL S. HALLAUER
Bausch & Lomb Optical Co.
O. A. BEECH
Beech Aircraft Corporation
CHARLES H. PERCY
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H. W. COMFORT
The Borden Co.
R. S. INGERSOLL
Borg-Warner Corporation
HERMAN W. STEINKRAUS
Bridgeport Brass Co.
B. E. BESSINGER
The Brunswick-Balke Collender Co.
JOHN H. BALLARD
Bulova Watch Co. Inc.
JOHN S. COLEMAN
Burroughs Corporation
R. G. LUCKS
California Packing Corporation
ROY W. MOORE
Canada Dry Ginger Ale, Inc.
HARMON S. EBERHARD
Caterpillar Tractor Co.
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NEELE E. STEARNS
Crane Co.
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Hickok Manufacturing Co., Inc.
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PHILIP LeBOUTILLIER, JR.
The Ottawa River Paper Co.
BRUCE M. JEFFRIS
The Parker Pen Co.
BRACKETT PARSONS
Pepperell Manufacturing Co.
JAMES M. SKINNER, JR.
Philco Corporation
WALLACE L. PIERCE
S. S. Pierce Co.
PAUL S. GEROT
Pillsbury Mills, Inc.
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Pullman-Standard Car Manufacturing Co.
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Republic Aviation Corporation
JUSTIN DART
Rexall Drug Co.
R. S. REYNOLDS, JR.
Reynolds Metals Co.
BOWMAN GRAY
R. J. Reynolds Tobacco Co.
W. F. ROCKWELL, JR.
Rockwell Manufacturing Co.
FRANCIS C. BROWN
Schering Corporation
W. M. GOSS
Scovill Manufacturing Co.
HENRY BLACKSTONE
Servo Corporation of America
J. MARK HIEBERT
Sterling Drug, Inc.
RUPERT C. THOMPSON, JR.
Textron, Inc.
D. T. STAPLES
Tidewater Oil Co.
W. G. ZAENGLEIN
Underwood Corporation
WALTER K. BAILEY
The Warner & Swasey Co.
GEORGE OLMSTED, JR.
S. D. Warren Co.
A. KING McCORD
Westinghouse Air Brake Co.
GWILYM A. PRICE
Westinghouse Electric Corporation
WALTHER H. FELDMANN
Worthington Corporation
GILBERT W. CHAPMAN
The Yale & Towne Manufacturing Co., Inc.
GEORGE T. STONE
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leadership in a given situation is the dominant factor in its long-term success."

- "Let's not forget that most U.S. businesses were built by managements of 25 and more years ago. We're more pro and scientific only because we have the technical, scientific, and psychological tools not available to predecessors."
- "Organizational concepts are better and more generally utilized, but basically the problem remains the same: how to train people on the job and get the right people in the right place, and the wrong people out of the way as roadblocks to progress."
- "A constantly widening dissemination of information resulting from the experience of others means fewer mistakes. Management has, therefore, become 'smoother' and more sophisticated; however, the same old time-worn fundamentals of good management must be adhered to if a company is to succeed, whether or not they are dressed up as 'professional' and 'scientific.'" END

WHAT PANEL COMPANIES MAKE OR DO

Panel companies are predominantly large—72 of the 109 participating companies are among the largest 400 in the United States, as measured in net sales. Most of them are diversified, and some make a wide variety of products, not always closely related. An analysis by the principal product or line, however, shows the following industrial composition of the Panel:

Industry	Number of Companies
Machinery, nonelectrical	19
Chemical and allied products	17
Primary metals	11
Transportation equipment	9
Food and kindred products	7
Electrical machinery, equipment and supplies	6
Paper and allied products	5
Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks	5
Textile mill products	4
Rubber products	4

Of the remaining members of the Panel, the manufacturing companies make tobacco products, apparel, furniture, leather goods, and metal products, and produce petroleum. Six nonindustrial companies are engaged in insurance, public power, heavy construction, railroading, and wholesaling groceries and appliances.

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every movement of truck from start to return

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These graphic reports of every run . . . help cut unscheduled stops, help you plan better routing, control vehicle speed, and lower operating costs by encouraging savings in time, gas, oil and tires. Get details. Mail coupon for Bulletin SU-3.

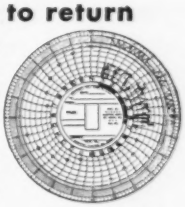
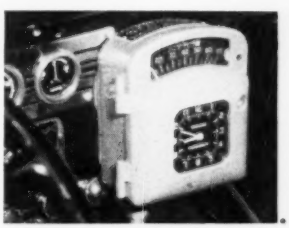


CHART TELLS ALL



Wagner Electric Corporation
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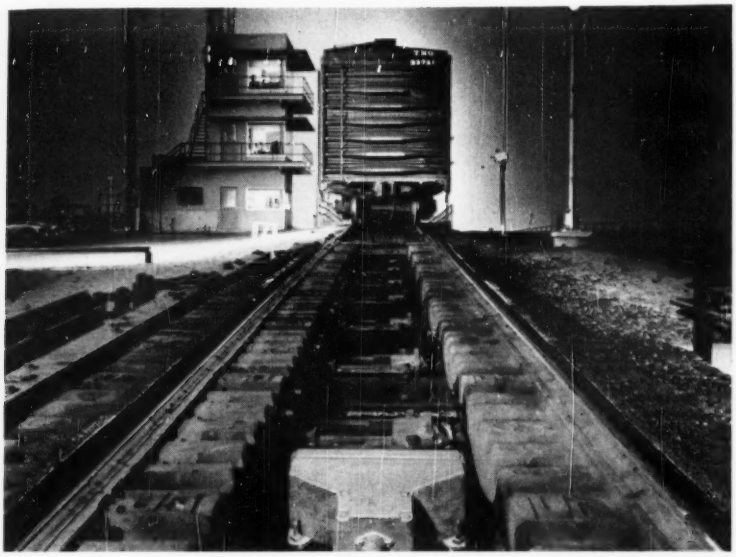
Name_____
Company_____
Address_____
City_____ State_____
We operate_____ Vehicles WS58-7

Manufacturers are on the lookout for new ways to put profits to work producing more profits for their customers and themselves. Today's cost squeeze calls for a new look at ways of getting goods to market, as....

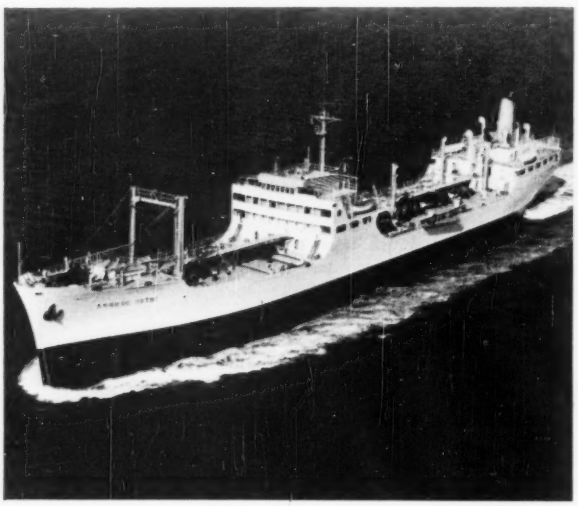


Radar helps control cars on the Southern Pacific.

TRANSPORTATION MOVES AHEAD

HAMSTRUNG BY MORE rules and regulations than any other American industry, transportation is making important headway, though it still has a long way to go. Technological advances hold considerable promise of future progress. Two examples—both, as it happens, in ocean transport, and neither as yet in use by a common carrier—are the new tanker for carrying wine, and the *N.* (for *Nuclear*) *S. Savannah*, an atom-powered merchant vessel to be launched in 1960. On the following pages is a roundup of other changes already under way.

More and more companies are looking at transportation as a way of adding to the value of goods, rather than just a cumbersome cost. For example, companies are increasingly keeping careful records of the savings achieved by their traffic departments and are passing the information along, as part of their sales story, to customers, particularly to those who buy FOB the supplier's plant. By working with the carriers, companies such as National Carbon (see photograph on page 101) are cutting shipping costs significantly and are, at the same time, improving service to customers—an impor-



United Vintners, Inc.

LOADED WITH WINE, the S.S. *Angelo Petri* makes its way toward Port Newark, N.J., from California with 2.5 million gallons for the Eastern market. The specially constructed ship saves in shipping costs, and may—along with the orange-juice ship (DR&MI, June 1957, page 112)—herald a revolution in distribution of potables.

Pan-Atlantic Steamship Company

CARRYING A TWENTY-TON trailer body, the S.S. *Gateway City* prepares to sail for ports on the Gulf, where the trailer will be lifted down for quick highway delivery. Since bulk isn't broken and handling is reduced, costs are less than for conventional truck-ship-truck and even somewhat less than for over-the-road hauling.

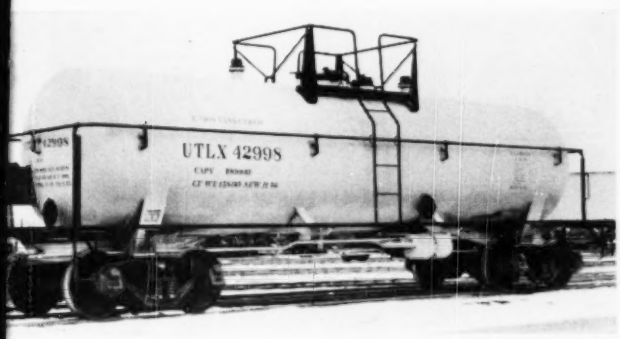
tant consideration in this period of increasingly tough competition for the customer's dollar.

In recent weeks changes in transportation have been popping up like mushrooms. Major railroads in both the East and the West are talking merger—no easy matter in this field, which is more rigidly regulated than a West Point plebe. The New York Central and the Pennsylvania would like to get together; the Texas & Pacific and the Missouri Pacific are also interested in merging.

Financially pinched, the railroads are increasing their appeals to the Interstate Commerce Commission for permission to integrate transportation by setting up their own truck lines. Today railroads are generally limited to operating feeder truck lines. The rapid spread of piggyback—still on the increase—points up the advantages of integration to the shipper. But according to ICC Commissioner Laurence K. Walrath, rail attempts to integrate the various modes of transportation have come more than a hundred years late, and are no longer practicable.

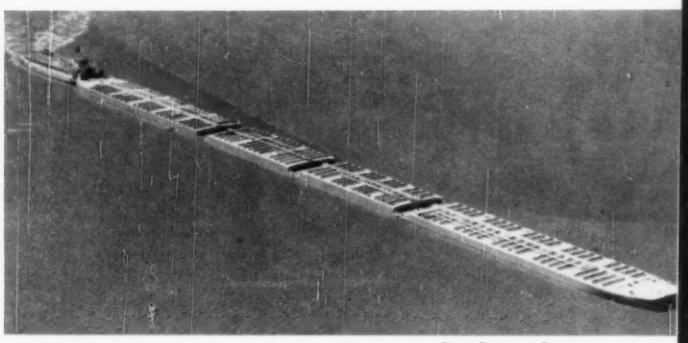
Nevertheless, recent months have brought more efforts at voluntary integration between competing carriers. Now, for the first time, a freight shipment by truck and plane goes all the way on a single through rate and air-bill number as a result of an agreement between Northwest Orient Airlines and twelve trucking companies. Cost to the shipper is lower and service faster, for transfer of shipments and added paperwork are avoided. Also, The Flying Tiger Line and United Van Lines have announced a new combination over-the-road-and-air service for household goods.

For the first time, a moving sidewalk has been put to work by a common carrier to speed the handling of freight. At its new Hoboken,



Union Tank Car Co.

TO RECAPTURE shipping orders lost to other carriers, the railroads are looking to this new tank car, which costs and weighs less than previous models and carries more. In addition, it provides needed versatility, since it can be easily modified into a general-purpose car, an acid carrier, an insulated car, or a low-pressure car.

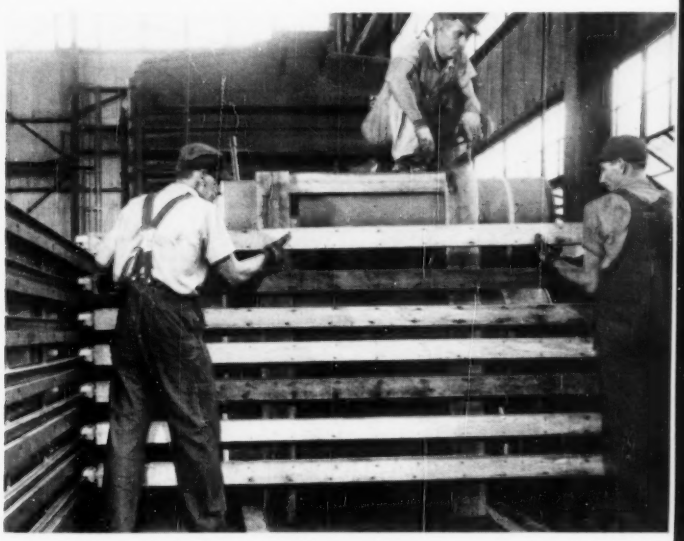


Shell Chemical Corp.

CARRYING HIGH-PURITY CHEMICALS never before moved by barge, this integrated tow makes a 22-day round trip on the Mississippi and other waterways between the Houston plant and a Chicago terminal. Fourteen different products can be carried in bulk in its nickel-lined steel compartments, holding 60,000 barrels.

Seaboard & Western Airlines

WHILE A MODEL DISPLAYS the product, German all-weather coats are unloaded from a Super-Constellation airfreighter. One airplane manufacturer predicts that air-cargo movements in the U.S. will increase eightfold by 1965. Last year, air-cargo ton-miles topped 1956 by about 25 per cent; 1956 surpassed 1955 by 21 per cent.



HEAVY INDUSTRIAL PRODUCTS can now be moved for the first time in damage-proof gondola cars, thanks to the joint efforts of National Carbon, Evans Products Company, and the Union Pacific and Chesapeake and Ohio railroads. Rugged internal bracing—an integral part of the car—makes possible more loading at less cost.

TEL-A-STORY COMMANDS ATTENTION!

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The Tel-A-Story Automatic Projector will sell your product using twelve 35mm or 2″ x 2″ square transparencies on a 156 sq. in. picture screen. Copy changes automatically every six seconds. Economical to own and use. Ideal for any type product or service.

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N.J., terminal, the Railway Express Agency operates a floor-level conveyor belt which runs for several hundred feet next to the freight cars.

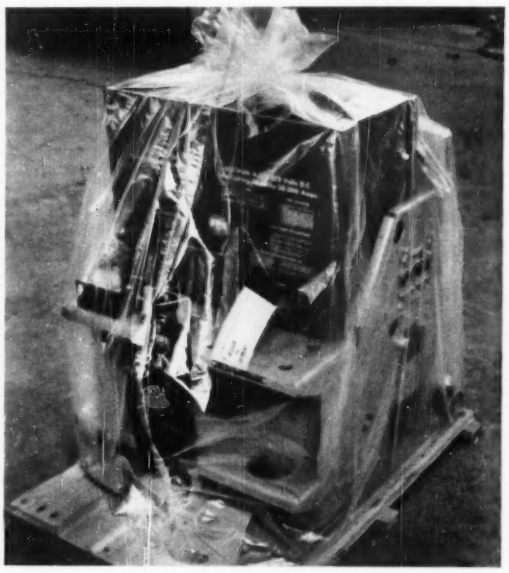
Truck lines have recently announced new lighter-weight, higher-cube trailers, capable of larger payloads, while electronic computers are being put to work to speed the truckers' paperwork.

The recent rapid growth in use of trailer-ships (four of the new lift-on, lift-off vessels are already in operation between Eastern and Gulf ports) should ease highway traffic and make new friends for truckers in the bargain.

One of the most dramatic uses of transportation by a manufacturer in recent months was the airlift J. I. Case Company of Racine, Wis., set up to take 3,000 dealers in 70 chartered transports to Phoenix, Ariz., to see a new line of farm equipment. The airlift, which was completed just before Christmas, chalked up a total of 8 million passenger miles flown and was, according to the company, the largest ever operated by a private company. —T.K.

United States Rubber Co.

INFLATABLE DUNNAGE, developed at the request of the Army Quartermaster Corps, sharply reduces cargo damage in rail shipments, speeds up loading and unloading, and eliminates the bracing and shoring lumber used for many kinds of cargo. The nylon cushion, called Shor-Kwik, can easily be deflated to free cargo when time comes for unloading.



BY CHANGING its packaging materials for air circuit breakers, Federal Pacific Electric has come up with savings of 20 per cent in shipping costs. Heavy corrugated cardboard or reinforced pressboard have replaced the traditional wooden crating, while polyethylene envelopes prevent dust and humidity damage to the product. Disposable wooden pallets are attached to the outside package.

In addition to a reduction in shipping weight, there have been significant side benefits. Federal Pacific has found that the new materials have cut handling and storage costs both at the point of shipment and at the customer's plant.

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Head Office, Montreal

JAMES MUIR
Chairman and President
K. M. SEDGEWICK
General Manager
A. F. MAYNE
Associate General Manager
(non-domestic business)

Condensed Annual Statement

as on 30th November, 1957

ASSETS

Cash on hand and due from banks (including items in transit)	$ 540,240,109
Government of Canada and provincial government securities, at amortized value	672,276,365
Other securities, not exceeding market value	505,688,414
Call loans, fully secured	238,163,548
Total quick assets	$1,956,368,436
Other loans and discounts	1,431,188,052
Mortgages and hypothecs insured under N.H.A. (1954)	216,590,777
Bank premises	34,559,150
Liabilities of customers under acceptances, guarantees and letters of credit	112,413,852
Other assets	9,424,350
	$3,760,544,617

LIABILITIES

Deposits	$3,426,683,145
Acceptances, guarantees and letters of credit	112,413,852
Other liabilities	19,444,074
Total liabilities to the public	$3,558,541,071
Capital paid up	50,400,000
Rest Account	151,200,000
Undivided profits	403,546
	$3,760,544,617

Over 900 Branches

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A. A. JOHNSON, Second Agent

INDUSTRIAL TRADITIONS AND THE AMERICAN FUTURE

continued from page 71

destiny, who can't wait to grow up. Everything must be done at once and in the grand manner. Its culture is an amalgam of an Iowa farmer's dream of paradise, of a Swami's vision translated from Sanskrit, and of a modern Medici's idea of splendor. Ideas on economics, religion, and social behavior are rampant. But Los Angeles is a laboratory for business, and especially for studying the whim of the consumer. Modesty and humility are foreign words in Los Angeles, but ingenuity and energy are not, and the City of Angels has a right to flap its gold-leaf wings and crow a little.

A city with an elaborate past, compared with other large communities, New Orleans wears its Old World atmosphere with easy grace, but it is a port of the future and the gateway to the agriculture and industry of the Yankee Midwest. Other cities, stamped from the cross-roads pattern of communities that have overgrown Main Street, look on New Orleans with envy, especially when the din of the Mardi Gras is at its height.

Pittsburgh is the creature of a political accident and a river confluence. It is a community that changed its mood and complexion when it became known as the "smudged slattern of the Golden Triangle." No city in America has been so rigorous in self-redemption, but without sacrifice of industrial assets. There are still bleak hills around the suburbs, with gaunt houses blinking in the sunset like a John Kane primitive. But the sun shines over the clean streets, and the clean air blows through the new vehicular tunnels. The community that grew up around Fort Duquesne is a center of heavy industry, where steel is king but enjoys no royal immunity for its social behavior.

Cincinnati was once the center of distribution for Western America. It was on the Overland Trail and the river routes and land trails west of the Blue Ridge. Some of this glory dimmed as the pioneer pushed past the Mississippi, and the warehouses sprang up in Chicago, St. Louis, and Kansas City. But the city that perches on the bluff has seen an empire sweep past and has lost none of its stolid, almost impassive, attitude toward the antics of violent progress.

St. Louis is the hub of a great wheel of distribution whose spokes run to Cincinnati and Denver, to Chicago and New Orleans. St. Louis was a mature trading community and pioneer cross-roads when Chicago was a cluster of huts, and there is a hint of history in the older city areas, still unblemished by modernity. Salesmen say, "If you can sell in St. Louis, you can sell anywhere." But though getting a customer in St. Louis may be hard, it is equally difficult to lose one if you mind your p's and q's. St. Louis is the open door to the Far West—not always wide open to new ideas, but never closed to progress when it means profits to business and benefits to the community.

Cleveland faces Lake Erie, and its physical growth is lateral, with the wet lake winds scrubbing the grime of industry from its face. As the wave of German immigrants influenced the personality of Cincinnati, Milwaukee, and St. Louis, so the Slavs, especially the Poles, have given a flavor to the life of industrial Cleveland.

BOSTON, 1832

Many colleges are here, but the emphasis is on the pragmatic, the utilitarian. The port awaits the opening of the St. Lawrence seaway for its next step to glory. Meanwhile, the city is trying to encompass the many independent communities of its environs.

Many small cities also have well-defined personalities. Though industry and trade may not have stimulated their growth unduly, they are still important centers of social action. Often they are towns that lack any consuming ambition to become the biggest and best. Such communities may be college towns or centers of recreation—cities with a storied past like Charleston, S.C., Santa Fe, N.M., or Pensacola, Fla.

The soul of any community is the composite of its citizens, living and dead, but the significance of a community in the affairs of present society is the degree to which its living citizens consider the industry and education of the city their responsibility.

It takes time to make tradition, it takes people to make folklore, and it takes tradition, folklore, and language to weave the living garment of culture.

The United States as an industrial democracy is too young to have a tradition in the true depth of time. It borrows the folklore of many peoples, and its language reflects the polyglot echoes of many nations.

But we do have a culture as genuine in concept as it is synthetic in nature, and we need not apologize for it. Nor is there reason to brag about its brash and garish exterior. We accept it for what it is, as the evolution of the art of a people whose social behavior may include many forms of folly, but who never permit cynicism to discolor their shield of faith.

The "good old days" are only good in retrospect. There is no such thing as "normal" except in the glance backward. We live in a period of accelerating change, which influences everything we do. The culture of our day lags somewhat behind industrial and technological change, but we are creating a tradition, a folklore, a literature of our times that will appear far more romantic than that of any age of the past when we have enough perspective to look upon it with a discerning and impartial eye. It is an age of marvels to dwarf Aladdin and his lamp, of terror to outdo Zeus and his thunderbolts, and, in some ways, of beauty to equal Athens of the Golden Age or Florence of the Renaissance. We ought to step back once in a while to enjoy it. The world has never seen anything like it. No wonder poets, playwrights, novelists, and painters are a little out of breath trying to keep up with it! —A.M.S.

NOTE: The engraving of New Orleans, page 71, from the New Orleans *Times-Picayune;* all others from the Phelps Stokes Collection, New York Public Library.

continued from page 47

ond response time of pneumatics is fast enough for most factories. Electronic units, however, also have greater range and flexibility in certain situations. In many plants, combination pneumatic-electronic controls are in service.

Most chemical plants today specify that electrical and electronic devices on the plant floor be explosion-proof, which adds to their cost. Pneumatic controls do not run hot or develop arcs, and are, therefore, inherently safer. Also, they don't require heavy covers to contain possible explosions. However, advances in transistors, diodes, and the other solid-state devices that replace relays should make the electronic controllers of the future run cool and arc-less.

On the other hand, the long air lines associated with pneumatics have to be purged about once a week, whereas wiring requires 'no maintenance—it only needs to be protected against possible damage. Electronic controls will probably reign supreme in the automatic factory of the future, but at present pneumatic controls and indicators are an industrial reality.

Safety Record Good

Safety is one factor that no plant manager can afford to forget. There is no question that the old clutch-type air tools (and clutch-type electric tools as well) were a safety problem: their use is prohibited by some factory managers. When the clutch plates wear down, the clutch can easily "seize," twisting the tool right out of a worker's hands, with a good chance of spraining or fracturing his wrists.

The latest air tools don't have clutches. Either the air-control valve is automatically opened when the torque limit is reached, or the torques are balanced out in the multiple-spindle types.

Air presses can also injure the operator and must be provided with the same guards, cut-outs, and other safety provisions as a mechanical or hydraulic press.

On the other hand, air hoists and cranes afford built-in safety. If the air pressure drops sharply, the hoist can't lose its load. The air line into the air motor has a one-way valve that holds the air in the motor, suspending the load in mid-air. Of course, electric hoists can also be equipped with emergency electromagnetic brakes to hold the load if power is lost.

Pneumatic conveyors do not have any open moving parts, such as belts or gears, into which workers can inadvertently stick their fingers or hands. However, some of the powdered materials conveyed by air, such as flour, are explosive under certain conditions. But they are not allowed to remain still in these conveyors, so they cannot build up heat and explode spontaneously. No explosions have ever been traced to pneumatic conveying.

Noise Muffled

The mention of air tools brings to most people's minds the ear-shattering din of pavement breakers. Although pneumatic chipping hammers, cutters, and similar maintenance tools make a terrific racket when they are striking metal, most air-operated equipment can't be detected above the usual noise in factories. Impact-type air tools also generate a good deal of noise, but they, too, are no louder than the usual sounds in a factory that uses this tool.

Air motors don't make much more noise than electric motors, especially when equipped with mufflers, and air gages and controls emit no more than a not-unpleasant hiss. Standing next to an air conveyor, you can barely hear the powdered material as it flows by. The compressors or vacuum pumps in central stations and for the conveyors do emit a steady roar, but they are usually in a special, enclosed room or on the roof of the plant. The small, isolated compressors or vacuum pumps for individual pieces of equipment aren't very noisy.

Since energy is lost as air moves through a pipe, it is common sense to locate air compressors or vacuum pumps as close to the point of use as possible. If air or vacuum is generally employed throughout a plant, a central pumping station is the answer, although long air lines need some maintenance—condensed water must be drained off regularly and leaks stopped. If used only at iso-

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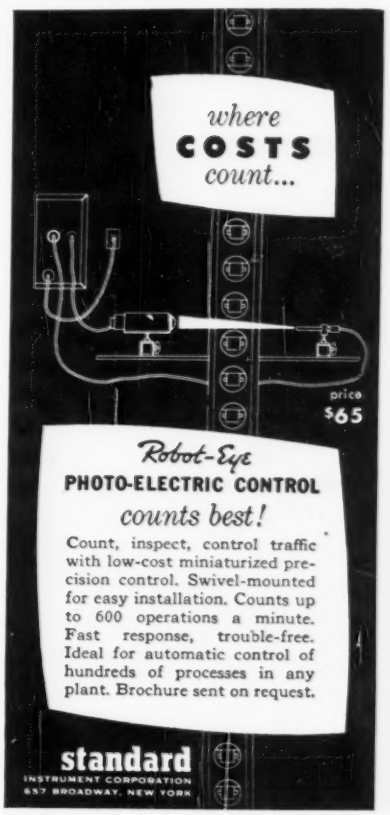
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lated points, separate pumps are most economical. It is now common practice to equip large, newly constructed plants with central compressor stations and plantwide distribution systems, according to Cunningham-Limp, a leading Detroit plant-construction outfit.

Many machine tools with air-operated attachments and air-gaging systems have their own individual compressors. Although this simplifies the power-supply system, it usually means greater initial cost and greater power requirements than when a central station is used.

Practically all plant compressors are driven by electric motors (so that a switch from electric to air tools won't lower the electric-power requirements for a factory). Some compressors, however, are driven by internal combustion engines or by steam engines where steam is readily available as a by-product of a plant's own power plant.

A few factories that were straining their electrical systems have added diesel-driven compressors to supply new air-power needs. Although this may help avoid heavy rewiring costs for a time, the steady increase in electric- and air-power demands of modern technology means that the need for more electric power can only be postponed.

Where air-power needs vary greatly and sporadically, some plants have added booster compressor stations along the air line supplied from a central station, to prevent the line pressure from dropping suddenly under heavy demand.

Now that air power is becoming so important in American plants, compressed air and vacuum stations and distribution systems should be designed as carefully and with as much provision for future growth as electrical systems.

ELIMINATES GENUFLECTION: A manufacturer of house trailers uses these lightweight Ingersoll-Rand air tools, conveniently mounted at the end of a rod, for drilling. Formerly, men had to kneel.

Long-Term Costs Lower

Air tools and hoists are not cheap. Generally, they cost more than competitive electric units—and they take more power to do the same job. But when long-term costs in terms of worker output and maintenance costs are considered, air equipment is usually considerably cheaper, as many American factory managers are ready to testify.

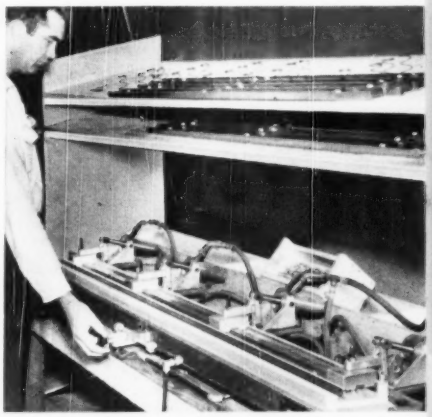
It's easy to see why power costs are higher. Take a simple example: running a nut down into position on a stud. An electric nut runner uses electric power directly, with the characteristic high efficiency of electric motors. A similarly efficient air-powered nut runner uses compressed air that usually has been pushed through a long line, with some frictional losses and possible leaks, by a compressor that converts electric energy to compressed-air energy at about 85 per cent efficiency.

However, these higher power bills at present electric-power costs are more than canceled out by a small increase in a worker's output at present labor rates. And some factories are achieving much more than fractional increases in output with air tools.

If a factory that buys its power also pays a "connected-load" bill in addition to the cost of power actually consumed, a common practice in the Far West, the use of compressed-air tools instead of electric tools can lower the connected-load bill. The horsepower of the electric motors driving a plant's compressors is usually only about 30 per cent of the total horsepower of the air tools, because these tools are used intermittently. Only the electric motors are counted in connected-load billing.

Compressed air or vacuum-operated gear won't solve all production problems. It's another handy, workaday solution to the old-time, long-term job of holding down production costs in the face of steadily rising labor, material, and financing costs.

If a factory lacks air line and vacuum lines stretching like tentacles back to central stations, this may be the time to invest in them, to reap the benefit of using air tools. But make sure to provide reserve capacity and room to expand.



FOR SMALL SHOPS, TOO: At the Royal Oak (Mich.) Wholesale Company, these De-Sta-Co toggle clamps compress a metal channel into the side of a window-sash frame. A single air valve controls clamping and unclamping of the four air cylinders.

If blueprints for a new factory are on the planning table, give serious thought to central air and vacuum systems, assuming you haven't already done so.

If air equipment that fits can't be found (although there are plenty of manufacturers around to tackle problems), try building home-made machines, as many have done. All the components—air cylinders, motors, pumps, valves, and piping—are readily available.

Air-operated equipment isn't particularly new, glamorous, dependent on research, revolutionary, or exotic. But it offers neat, easily comprehended answers to production problems—and without high maintenance costs. For manufacturers or industrial distributors looking for ways to hold down rising costs, here's a comfortable old shoe everyone should try on for size. END

MANAGEMENT PLANS

continued from page 41

Lodestar or a DC-3 may cost five times as much. The cost per passenger mile, of course, depends on how closely you approximate maximum loads in most flights, the number of hours the plane is flown each year, the size of the plane, and the extent of maintenance. As part of their selling kit, plane manufacturers are prepared to present detailed figures on their models *vis-a-vis* the competition.

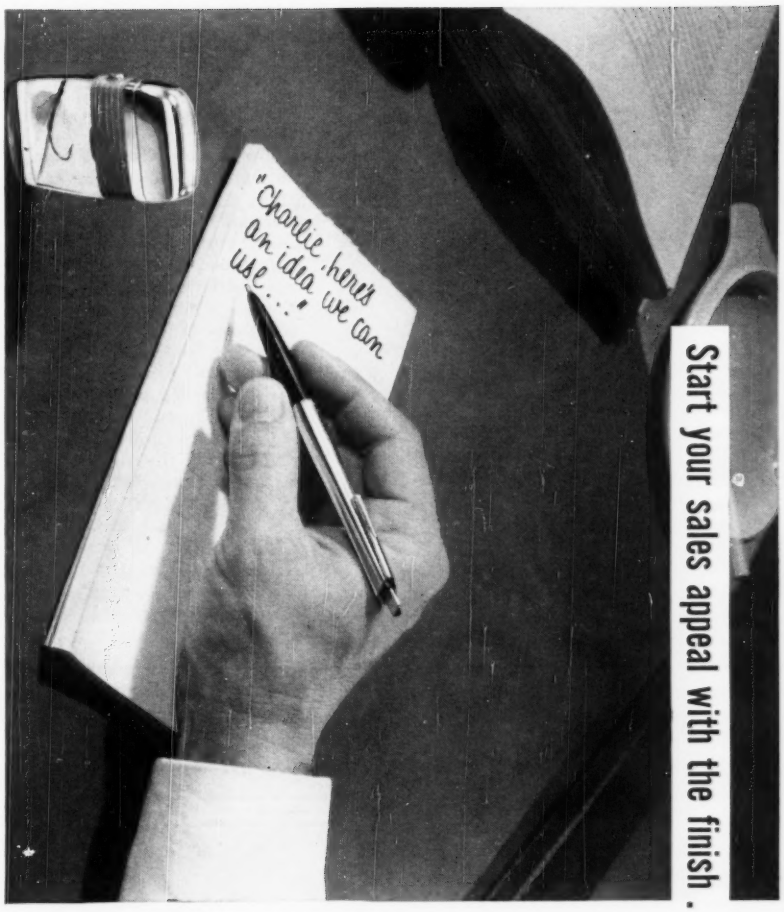
A company's particular pattern of travel and savings in management time don't always depend on a rigid hour-use formula. But generally a plane should be operated at least 400 hours a year for economical use. The cost dips sharply after 400 hours, and 600 is the figure most companies aim for. After 700 there is little perceptible change in passenger-mile costs.

Says O. B. Wynn, who manages plane operations for Ray-O-Vac Company, Madison, Wis.: "The principal problem is scheduling the company plane so that we will get the greatest over-all benefit, resulting in the fewest empty seats and in selection for the most important use."

To insure optimum use, some companies schedule flights as far in advance as possible and post flight notices on bulletin boards. Others set up aviation departments, which run flights much like a private airline. Burlington Industries requests executives planning trips to take the company plane when seats are available.

Another manufacturer runs what amounts to a regularly scheduled airline in miniature. Two trips a day are scheduled among its three plants, each in a different state. In other companies, a close watch is kept on operating costs by charging those departments using the plane the actual airline fare between the points.

Some companies use helicopters (which are also used for many technical tasks such as aerial surveys, explorations, and supplying offshore oil rigs) to tie together multiplant operations. For short-hauling of passengers among several plants in traffic-congested areas, helicopters are unsurpassed. Northrop Aircraft's three plants in the Los Angeles area are connected by two such scheduled trips daily. So far, however, there are no more than a dozen such operations. In all, about 150 helicopters are



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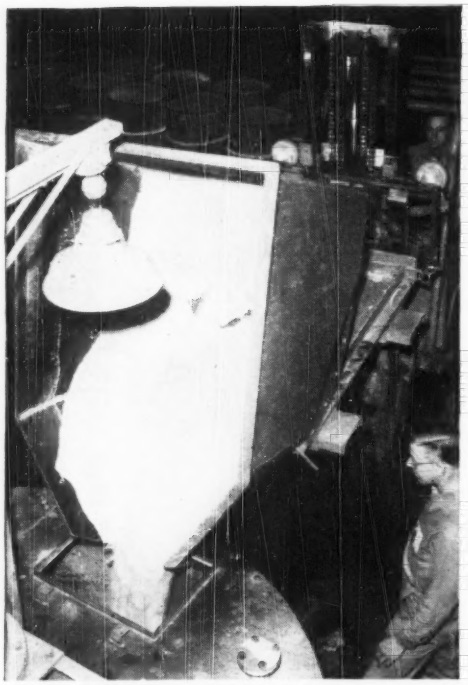

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1-58

owned by industry, and most are used for other purposes.

The biggest development in business aviation in recent years has been the "light twin." This is a small two-engine plane developed specifically for the executive and business market—unlike the DC-3, the Fairchild F-27, the converted A-26, the Lockheed Lodestar, and similar larger planes, of which about 600 are in use. The main appeal of the light twin is economy of operation without any sacrifice of speed or comfort. The larger reconverted planes are very useful for carrying large transport-size groups. But surveys show that company planes generally carry loads of fewer than six passengers.

Now produced by Aero Design, Beechcraft, Cessna, Piper, and others, the light twin was first developed for the executive market around 1950. Although only 97 were produced in 1952, output had mounted to 1,050 in 1956. Since their introduction, about 3,400 light twins have been bought by business.

The two-engine set-up particularly appeals to safety-conscious executives, and its more elaborate instrumentation makes the light twin more versatile and less dependent on the weather than most single-engine planes, which are usually limited to daylight and fair weather. Light twins are fast, but they land easily on small fields. This, of course, enhances their appeal to companies with plants in smaller communities.

The Planes to Come

Looking to the future, most users of business aircraft think that development of jet and turboprop aircraft for executive use, along with advanced instrumentation for all-weather flying, are the most significant things on the horizon. The fact is that plane manufacturers are now producing fast (over 200 mph cruising speed), multi-seat (five or more passengers), safe (twin-engine and highly instrumentated) planes specifically for the executive market. Manufacturers which had never entered or else had abandoned the executive plane market – Grumman, Lockheed, and Fairchild, among others—are now announcing new models. They are preparing for delivery within the next few years both jet and turboprop executive transports.

Though still very much in the majority, single engine craft have not

been increasing so fast as the light twins. The former now account for about 22,000 of the 26,000 business planes. Cessna, which has seen the sales of its single-engine models increase sixfold in the past six years, reports that 90 per cent of such planes are bought by small- and medium-sized businesses. Although some people think of company planes as primarily a big-business affair, small- and moderate-size concerns use them much more extensively. A plane, in fact, can be a much more critical factor in the success of a smaller company.

Future of Flying

In recent decades the aviation industry has experienced some roller-coaster ups and downs. The preparedness rush of the late 1930's and early 1940's carried production off the tops of the most optimistic forecasts, and there were predictions on all sides of an almost equally voracious postwar market, with a helicopter or light plane in every garage, and the entire population taking to the air. But these hopes faded, and it has only been in recent years that the civilian plane market has nosed up. The boom in executive flying came as a surprise to many who were expecting, instead, a spectacular upswing in family flying.

Bigger growth is in store in the years ahead. According to the Curtis Report on Aviation, the business fleet will rise to 38,000 planes by 1965 and to 60,000 by 1975. Even more impressive are the Report's predictions about the increased use of company planes. It estimates that business flying will account for about 60 per cent of all nonmilitary hours flown in 1965, half again as much as today.

At a time when other manufacturers—particularly in consumer goods—face tough selling days ahead, plane-makers can look forward to a market the surface of which has barely been scratched. They estimate that no more than 10 per cent, at the very most, of companies that could profitably use planes now own one. And whether or not your company now owns a plane or plans to buy one, chances are the boom in business flying will affect your operations somehow—in better service from suppliers, keener competition, or even in new marketing opportunities among the business-plane makers themselves in the fast-flying years ahead. END

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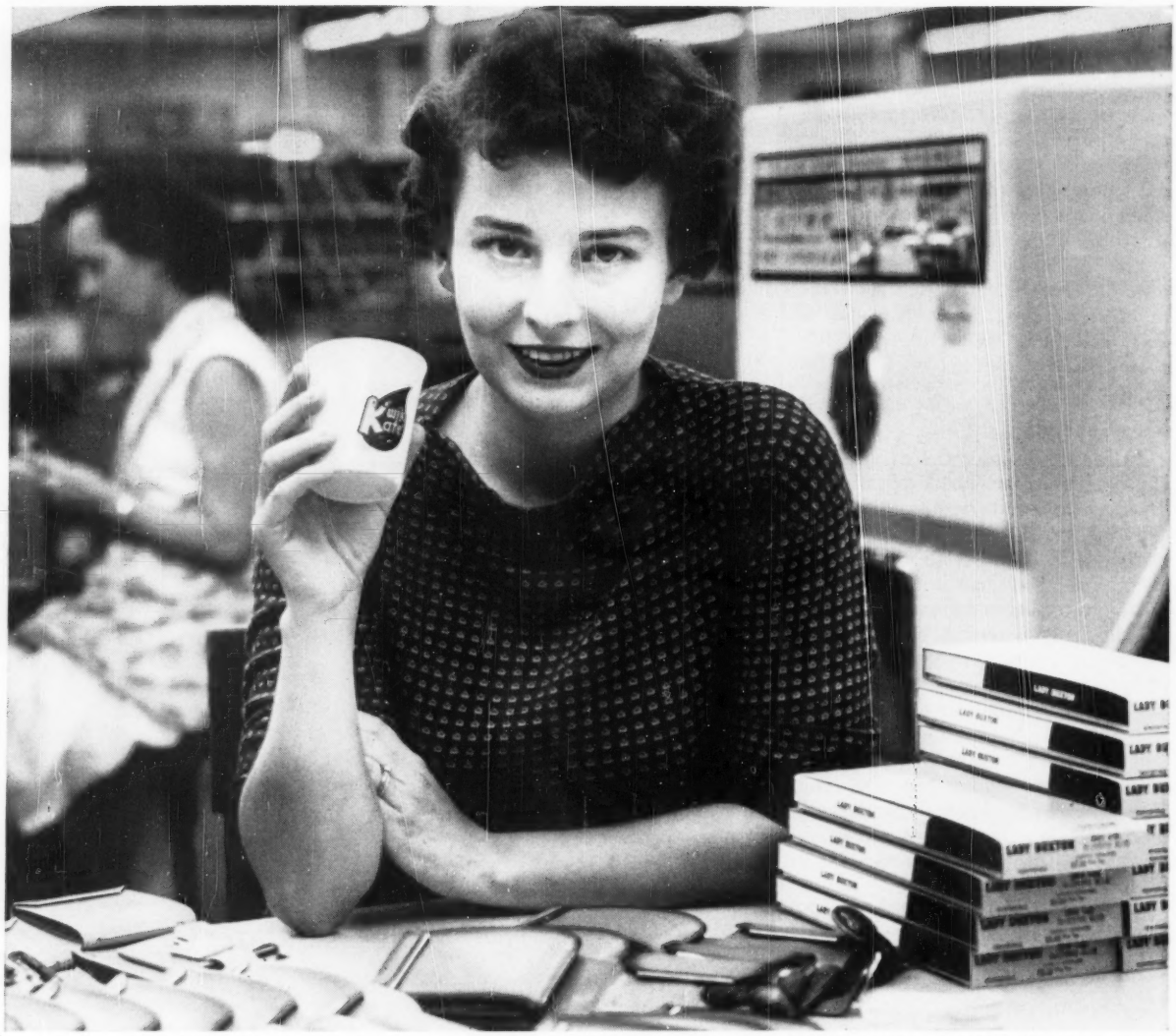

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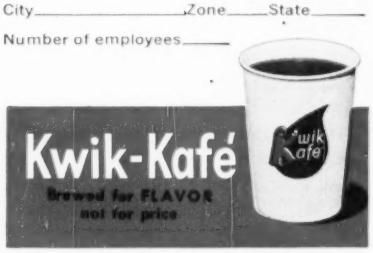

"GOING RATES": *Termites in Industry's Pay Structure?*

When a company can't hire good beginners at the rates it's paying experienced help, there's usually trouble ahead in the form of plummeting morale, a disrupted wage structure, or both. Here's what some companies are doing about the problem.

A FEW YEARS AGO a large New York bank advertised for Comptometer operators—no experience needed. Among the applicants was one who did have experience. In fact, she was already on the bank's payroll.

"I don't understand," said the personnel department interviewer. "You're working here now."

"I was until this morning," said the girl. "But I've decided to resign. The salary for the new job is more than I've been getting. So I want to start all over as a beginner."

She got the raise—and so did all the others in her group, who followed her example as soon as they heard what had happened.

Poor personnel administration? Certainly, according to all the books. But what is a company to do when jobs at the usual beginners' rates find no takers?

Most companies have encountered this problem in one form or another. For several years past, each new crop of engineering graduates has commanded higher salaries, and the same thing is beginning to be true of business administration graduates.

"The top quarter of our June class (salary-wise) got starting salaries averaging $525," Professor Earl Brooks of the Cornell Graduate School of Business and Public Administration reported recently. "That's about $70 a month more than our 1956 graduates averaged and is, in fact, probably more than many of them are now making after a year on the job." In the clerical field, there has been an equally pronounced trend toward higher pay for beginners.

To find out how companies are meeting this problem, Professor Preston LeBreton of Louisiana State University recently queried 150 concerns throughout the country—utilities, manufacturers, banks, transportation companies, publishers, wholesalers, and retailers. Their replies are tabulated in the box above.

What Companies Do When "Going Rates" Are Out of Line

	Number of Companies Using
Ignore market conditions and concentrate on maintaining internal consistency. Emphasize fringe benefits and other advantages rather than money rates	18
Bring in new workers at market price, regardless of its relationship to company rates	17
Bring in new workers at market price unless it falls out of the established range for the job class	73
Deliberately evaluate the job higher than its objective worth	12
Eliminate the job by contracting out or distributing the work internally	6
Use outside agency help at required rate, with agency workers performing their duties on company premises	11
Add work to job content, thereby increasing its worth to the company	19
Raise the level of all wages in the company	18
Other approaches	23

(NOTE: Some companies use more than one approach.)

Stressing the other advantages a company offers is perhaps the most satisfactory plan of all where it can be made to stick. But the truth is, of course, that only an occasional company can offer "other advantages" so far above average that they will outweigh higher salaries. And some studies have shown that fringe benefits have little effect as a selling point. Not long ago, for example, the Philadelphia Chapter of the National Office Management Association queried more than 1,000 office workers who had quit their jobs, and found not one who had changed companies for the sake of higher fringe benefits.

Ignoring market conditions may

result in a lowering of standards, or —and this has happened in many companies—having a number of jobs unfilled most of the time. In times of shortage, which may continue for years, this leaves the company permanently short-handed.

The Easy Way Out

It is not surprising, therefore, that most of the companies covered in the survey have yielded to market pressures, and preferred easier recruiting to consistency in the rate structure. Most have, however, tried not to bring new workers in at a rate above the top of the range. By so doing, they may have avoided new headaches. One company reports:

"Recently, to meet market conditions for typists coming directly out of high school, an adjustment was made in their starting rate. However, the maximum wage of their group was not changed. Although this made it seem likely they would reach the maximum rather quickly, the turnover is such that they are soon promoted out of this wage group."

Where an entire group of jobs gets out of line, some companies establish an entirely separate compensation structure for it. A Chicago manufacturer explains:

"When the market rate for one or two jobs rises, we usually ask the salary committee to permit a special rate in line with the labor market, and the matter is handled as an exception to the rule. When it happens to a whole family of jobs, as in the case of engineers and craftsmen, we think it is better to set up a separate pay structure based on either local or national pay data, depending on the level of the jobs."

Raising all rates proportionately is, of course, a sure way of maintaining internal consistency, but many companies don't consider it because they simply can't afford it. Moreover, as Professor LeBreton points out, it is no easy matter to adjust the level downward when market conditions improve. This can, however, be a useful solution when market rates for a large percentage of the jobs appear to have reached a permanent higher level, when the total workforce is relatively small, and when the company can afford the increase.

More Than It's Worth

Deliberately to evaluate the job higher than its objective value looks at first glance like a subterfuge hardly worthy of consideration, and one that may well, as Professor LeBreton says, "unloose a veritable flood of inequity claims."

Yet it is possible to argue that this approach is really not inconsistent with a sound pay system. Many job evaluation plans allow extra points for unpleasant working conditions—which is nothing more than an awareness of the fact that such jobs are difficult to fill. One company that has apparently recognized this is Abbott Laboratories, North Chicago, Ill. Karl Anthony, assistant to the director of personnel, recently reported at an American Management Association meeting that the company rates jobs not only on nine factors of skill, responsibility, and effort, but also on "scarcity" of qualified workers.

In fact, enlarging the job—which on the surface appears more logical —may turn out to be much more of a subterfuge than deliberately taking account of the scarcity. "Too frequently," says Professor LeBreton, "the newly assigned duties tend to be at the same level as the existing duties, and add little or nothing to the total value of the job. And since it is safe to assume that the job in its original form required a full day's effort, the true increase in job worth is usually less than the rate increase."

Capitalizing on Talent

Taking out the less important duties—for example, removing the clerical work from engineering jobs—and allowing the employee to use his highest skills at all times may be a better approach, he believes.

Discontinuing the job and farming out the work, Professor LeBreton finds, is being practiced less frequently than in the past, and the use of outside agency help—a somewhat similar solution, which some companies have found very helpful —can give rise to difficulties. Usually, he says, agency workers must be restricted to routine jobs, at least within the first few weeks. Where they are brought in for longer periods, regular employees may become disgruntled, because they are likely to assume—whether correctly or not—that the agency workers are getting higher pay. However, some companies have found that many agency workers apply for permanent employment, even at lower company rates, once the agency contract has expired.

The "other approaches" reported in the survey were variations on the eight listed. No perfect-solution to the problem, it appears, has been devised, but a judicious use of one or more of the available plans can often minimize it.

In the case of certain office jobs some relief is in sight, though not exactly at hand. The high birthrate of the 1940's means that in a few more years enough new high school graduates will be entering the labor force to help offset the clerical labor squeeze. —Alice Smith

"I happen to enjoy sitting here watching the rest of the world go by!"

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ADVERTISING INDEX

—A—

ACME VISIBLE RECORDS, INC. 92
E. H. Brown Advertising Agency
ALEXANDER HAMILTON INSTITUTE 3
Maxwell, Sackheim & Co., Inc.
ALLIED RESEARCH PRODUCTS, INC. 60
Emery Advertising Corporation
ALLIED STEEL & CONVEYORS 4–5
Holden, Chapin, LaRue, Inc.
AMERICAN CREDIT INDEMNITY COMPANY 79
VanSant, Dugdale & Company
ARMCO DRAINAGE & METAL PRODUCTS, INC. 65
N. W. Ayer & Son, Inc.

—B—

BERMAN SERVICE, INC. 83
BIG JOE MANUFACTURING COMPANY 13
Reincke, Meyer & Finn, Inc.
BORROUGHS MANUFACTURING COMPANY, SUBSIDIARY AMERICAN METAL PRODUCTS COMPANY 14
Roland G. Spedden Advertising Agency
BURROUGHS CORPORATION 57
Campbell-Ewald Company
BUTLER MANUFACTURING COMPANY 12
Aubrey, Finlay, Marley & Hodgson

—C—

E. A. CAREY 94
Grant, Schwenk & Baker, Inc.
CHAMBERSBURG ENGINEERING COMPANY 16
Willard G. Myers Advertising Agency
CHASE MANHATTAN BANK, THE 72
Albert Frank-Guenther Law, Inc.
COLUMBIA RIBBON & CARBON MANUFACTURING CO., INC. 53
E. M. Freystadt Associates, Inc.
COMMERCIAL CREDIT CORPORATION 26
VanSant, Dugdale & Co., Inc.
COMMONWEALTH OF PENNSYLVANIA 99
Kastor, Farrell, Chesley & Clifford, Inc.
COMMONWEALTH OF PUERTO RICO, ECONOMIC DEVELOPMENT ADMINISTRATION 93
Ogilvy, Benson & Mather, Inc.

—D—

DETROIT FREE PRESS, THE 94
Powell, Gayek, Inc.
DICTAPHONE CORPORATION 2
Young & Rubicam, Inc.
DU MONT, ALLEN B., LABORATORIES, INC. 10
Lescarboura Advertising, Inc.
DUN & BRADSTREET, INC. 95

—E—

EASTMAN KODAK COMPANY (VERIFAX) 51
J. Walter Thompson Company
ECONOMY ENGINEERING CO. 22
Kreicker & Meloan, Inc.
EXECUTONE, INC. 11
The Joseph Katz Company

—F—

FARQUHAR, A. B., DIVISION, THE OLIVER CORPORATION 66
Foltz-Wessinger, Inc.
FLUOR CORPORATION, LTD., THE ..... Cover II
Hixson & Jorgensen, Inc.

—G—

GENERAL BINDING CORPORATION 84A–84B
Irving J. Rosenbloom Advertising Agency
GLICKMAN CORPORATION 61
Pace Advertising Agency, Inc.
GLOBE HOIST COMPANY 81
The Eldridge Company
GRAPHIC SYSTEMS 96
Diener & Dorskind, Inc.
G. R. PRODUCTS, INC. 105
Norman-Naven, Inc.

—H—

HERTZ SYSTEM, INC. 6
Campbell-Ewald Company
HILL, R. O. H., INC. 74
The Buckley Organization
HY-TEST SAFETY SHOES DIVISION, INTERNATIONAL SHOE COMPANY 83
Jos. E. Schmitt, Inc.

—I—

IDEAL CEMENT COMPANY 55
Rippey, Henderson, Bucknum & Co.
INGERSOLL KALAMAZOO DIVISION, BORG-WARNER CORPORATION 8
Paxson Advertising, Inc.

—K—

KENNEDY CAR LINER & BAG CO., INC. 82
Poorman, Butler & Associates, Inc.
KINNEAR MFG. CO., INC. 30
Wheeler, Kight & Cainey, Inc.
KLM ROYAL DUTCH AIRLINES 90
Charles W. Hoyt Company, Inc.

—L—

LUDWIG, F. G., INC. 68
Van Lear Woodward Associates, Inc.

—M—

MAGLINE, INC. 54, 97
Rossi and Company
MAGNAFLUX CORPORATION 76
Stoetzel & Associates, Inc.
MANIFOLD SUPPLIES COMPANY 94
Williams Advertising Agency, Inc.
MARSH & McLENNAN, INC. 64
Doremus & Company
MASTER ADDRESSER COMPANY 96
The Nieland Agency, Inc.
MICROMATIC HONE CORPORATION 62–63
Gray & Kilgore, Inc.
MILWAUKEE DUSTLESS BRUSH COMPANY 89
Al Herr Advertising Agency, Inc.
MINNESOTA MINING & MANUFACTURING COMPANY 27
Erwin Wasey, Ruthrauff & Ryan, Inc.
MONROE CALCULATING MACHINE COMPANY, INC. 17
L. H. Hartman Co., Inc.
MOORE BUSINESS FORMS, INC. 28
N. W. Ayer & Son, Inc.
MORRIS, BERT M., CO. 109
Edward S. Kellogg Company
MUZAK CORPORATION 7
Schwab and Beatty, Inc.

—N—

NATIONAL TRUCK LEASING SYSTEM 92
W. S. Kirkland
NEW YORK CENTRAL SYSTEM 15
J. Walter Thompson Company
NEW YORK TERMINAL WAREHOUSE COMPANY 75
Bruce Angus Advertising Agency

—O—

OLD AMERICAN INSURANCE CO. 102
Selders-Jones-Covington, Inc.
OLYMPIC LUGGAGE CORP. 74
Sykes Advertising, Inc.

—P—

PETERS-DALTON, INC. 91
L. J. DuMahaut Advertising Agency
PITNEY-BOWES, INC. 25, 52
L. E. McGivena & Co., Inc.

—R—

RAYMOND CORPORATION, THE 77
Taylor M. Ward, Inc.
REEVES BROS., INC., VULCAN RUBBER PRODUCTS DIVISION 29
Gotham-Vladimir Advertising, Inc.
REVO-FILE DIVISION, THE MOSLER SAFE COMPANY 21
Cunningham & Walsh, Inc.
REVOLVATOR COMPANY 61
Fredricks & Company, Inc.
REZNOR MANUFACTURING COMPANY 97
Kight Advertising, Inc.
ROURA IRON WORKS, INC. 108
Marsteller, Rickard, Gebhardt and Reed, Inc.
ROYAL BANK OF CANADA, THE 103
Albert Frank-Guenther Law, Inc.
RUDD-MELIKIAN, INC. 110
Gray & Rogers
RYERSON, JOSEPH T., & SON, INC. 18
The Buchen Company

—S—

STANDARD INSTRUMENT CORPORATION 105
Richard-Lewis Corp.
STEN-C-LABL, INC. 69
Gibson-Erlander, Inc.
SYSTEMS AND PROCEDURES ASSOCIATION 88

—T—

TEL-A-STORY, INC. 102
Warren & Litzenberger
TEXAS COMPANY, THE ..... Cover IV
G. M. Basford Company
TIMES FACSIMILE CORPORATION, STENAFAX DIVISION 75
Thomas & Douglas, Inc.

—U—

UDYLITE CORPORATION, THE 107
The Jaqua Company
U. S. STEEL SUPPLY DIVISION, UNITED STATES STEEL ..... Cover III
Batten, Barton, Durstine & Osborn, Inc.

—V—

VERSON ALLSTEEL PRESS COMPANY 31
Russell T. Gray, Inc.

—W—

WAGNER ELECTRIC CORPORATION 99
Arthur R. Mogge, Inc.
WASSELL ORGANIZATION 89
James R. Flanagan Advertising Agency
WATSON MANUFACTURING CO., INC., ROL-DEX DIVISION 56
Griffith & Rowland
WEST BEND EQUIPMENT CORP. 88
Morrison-Greene-Seymour, Inc.
WEST CHEMICAL PRODUCTS, INC. 23
G. M. Basford Company
WHEELS, INC. 67
Mautner Agency
WIGTON-ABBOTT CORP. 85
Lee-Stockman, Inc.
WING, L. J., MFG. CO. 78
Willard G. Myers Advertising Agency
WYANDOTTE CHEMICALS CORPORATION 58–59
Brooke, Smith, French & Dorrance, Inc.

—Y—

YALE UNIVERSITY PRESS 61
Langeler-Stevens, Inc.
YODER COMPANY, THE 24
G. M. Basford Company

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BENCHMARKS OF NATIONAL LEADERSHIP

WHAT ARE THE ELEMENTS OF LEADERSHIP, and how are they recognized? Certainly, we set no standard of maturity in our political and our social conduct when Russia succeeded in defying the law of gravity with her satellites. The panic of words in the press, the violence of charges and counter-charges in legislative and administrative branches of government, the juvenile ineptness of finger-pointing among educators and scientists was, all in all, a sorry exhibition.

Why all the excitement? What is the sum total of Russia's gain? By any economic gage we are her superior in productivity, and short-term potential. By any ethical measure, our loyal, free-willed citizenry is superior to their captive population of uncertain fealty. By any measure of conscience, we can let history offer the evidence of our faith and good will toward our neighbors.

However, even if we don't have to defend our moral position before the world, we should show a more determined leadership to the nations that enjoy freedom and those that hope to regain it.

The elephantine gentleness of the U. S. is misunderstood and ridiculed abroad, and our sense of international fairness is taken for a flabby, unfocused, day-by-day diplomatic method. The time has come for clarity of vision, certainty of policy, and directness of speech. The time is here for the leader to demonstrate leadership and to command the respect that responsibility warrants.

For more than a decade, we have permitted Russia to set the pace and establish the political climate in world affairs. We blow hot or cold with the moods of the Kremlin. Our economy has learned to adjust itself to the smiles and frowns of Stalin, Malenkov, Khrushchev, and the blustering, frightened, bullying lackeys of world communism who throw the wrenches into the machinery of the U.N. We fought the Korean War to Russian rules of the game which were made up as the conflict moved from crisis to crisis. We followed, rather than led, in the Far East and the Middle East, and with each problem there came economic adjustments and political embarrassments at United States expense.

Whether or not the free people of the world respect our motives, they resent a paternalistic attitude on our part. It isn't the gifts we bear that count with them, but the determined action we take in meeting any challenge. Europe, the heir of the centuries, would like security and prosperity, and under the threat of the Bear's paw may trade some of her liberties to achieve them. And since any war is likely to be global, with citizens rather than soldiers as the victims, we face the same risks. How are we to meet them—as sheep in a panic, or as thinking men and women who accept life as an interesting and reasonable risk and make the most of it with courage and understanding?

If we need leadership abroad, we need it urgently at home in every branch of society, and especially in business and industry. If business offers inspired leadership, the infection will spread to government, not only in the administrative but in the elective branches, where judgment is easily swayed by the shifting whims and passions of the voter.

The perspective of educators must be kept at a proper distance from the excitement of the day. We need more scientists, and we shall get them, but we cannot afford to let the clamor for scientific training color the judgment of teachers whose aim is the development of the whole man. Nor should we permit the specialist to dominate policy at the expense of ethics or esthetics. Russia as a nation of technicians is a lesser danger to our survival as free men than the prospect of a United States in the hands of lop-sided specialists and opportunists, removed from the disciplines that protect the individual and the institutions created for his benefit. The kind of leadership we need in statecraft, education and industry will come from men who shape policy out of principle and back up promise with prompt performance. Let's set our own pace in positive action that will encourage the free world to follow, with the confidence that we know what we are doing and where we are going, regardless of chest-thumping in Moscow.

The Editors

Here's what U. S. Steel Supply's

ANY STEEL ANYWHERE ANY TIME SERVICE

means to Dray Manufacturing Co.

"Dependable Service from U. S. Steel Supply has INCREASED PRODUCTION 50%"

says
James H. Dray,
President,
Dray Manufacturing Company, Inc.

"The net result of a 4-year association with U. S. Steel Supply has meant a *proven* 50% increase in our total production," says Mr. James H. Dray, President of the Dray Manufacturing Company, Inc., Downey, California, manufacturer of metal office furniture.

By using U. S. Steel Supply's ANY STEEL, ANYWHERE, ANY TIME SERVICE, Mr. Dray eliminated the need for a voluminous inventory. "We previously carried a $60,000 in-plant stock of cold-rolled steel sheets," he says. "Today, we have less than $16,000 worth on hand, because we have our steel delivered, if necessary, on a day-to-day basis from U. S. Steel Supply—and the increase in available working capital, which had been tied-up in inventory, permitted us to buy additional production equipment *we could not afford before.*

"Secondly," says Mr. Dray, "our reduced inventory also made an extra 10,000 square feet of space available for increased production facilities and machinery." Steel buyers, like James H. Dray, have found that by using ANY STEEL, ANYWHERE, ANY TIME SERVICE it is actually *less expensive* to buy from U. S. Steel Supply.

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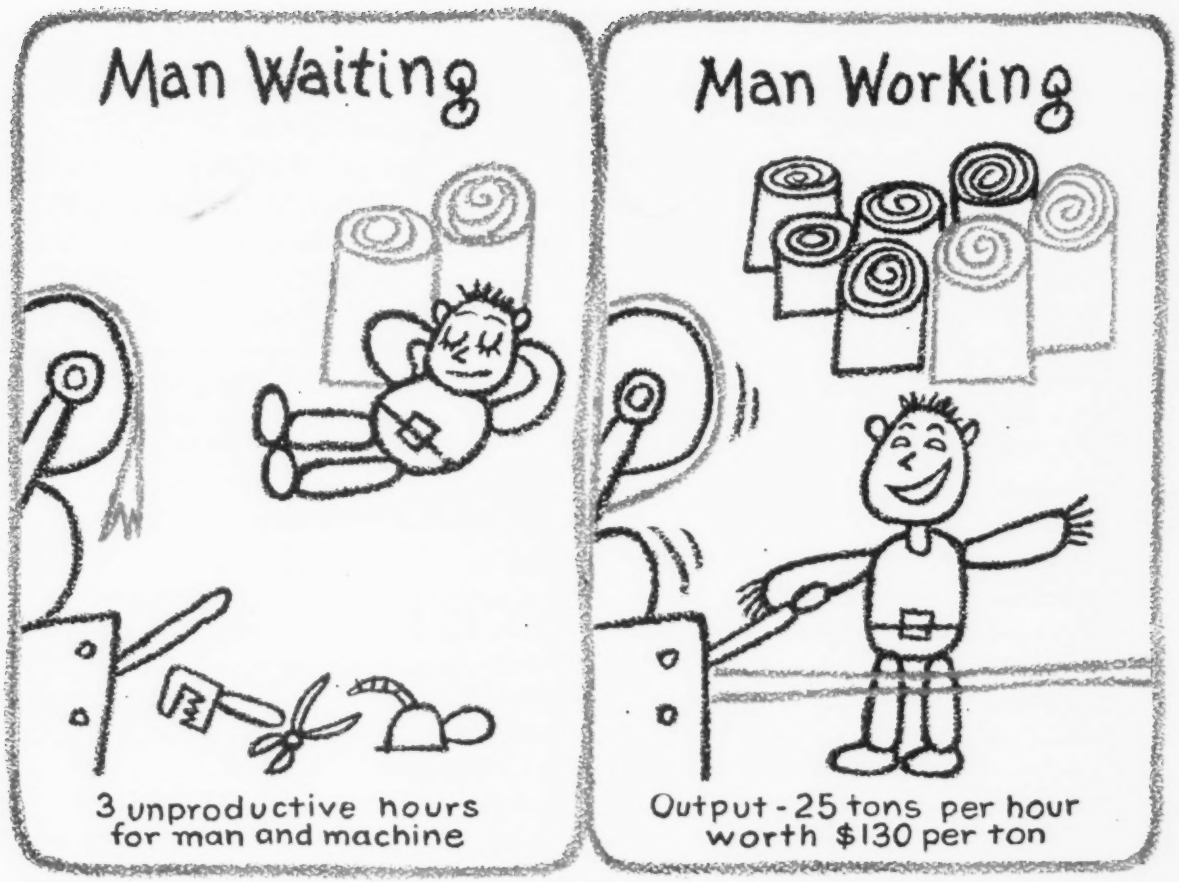

In the past, production losses due to breakdown of dryer roll bearings were so small they could be made up.

Today shut down of high-speed machines puts production behind by hundreds of tons per hour—quickly piles up losses.

Lubricating plan cuts downtime —can save $10,000 in 3 hours

Not so long ago, machines shut down by bearing failure could make up production losses. Today volume output and integrated production mean that production losses are losses in profit. These are the reasons behind management's growing concern with lubrication methods in their plants.

Take this example from the paper industry: they used to figure $500 for a bearing, $500 for labor (idle time and repair crew) and expected to make up losses on the two or three hours downtime. Today, high speed machines produce twenty-five tons of paper per hour worth $130 per ton. You can't ignore $3,000 an hour in production losses. In this case, the cost of the bearing replacement could run as high as $10,000.

Lubrication problems differ with specific industries, but the basic principles are the same. Many companies are finding that the services of a plant lubrication engineer pay off. His services can extend part life, eliminate production losses, reduce rejects, simplify lubricant inventories and otherwise add to income. Some companies delegate lubrication responsibility to engineers or plant personnel who also perform other duties.

In both cases, Texaco's organization of Lubrication Engineers is functioning in all 48 States, as consultants in outlining a practical approach to these problems. A more detailed discussion is available in an enlightening booklet: "Management Practices That Control Costs Via Organized Lubrication." Write The Texas Company, 135 E. 42nd St., New York 17, N. Y., Dept. D10.

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)